ARCHITECTURE

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Who Is the Owner?

By Morgan Farrell

Liquidation and foreclosure have brought about many changes in ownership, with the banks, trust and insurance companies holding vast quantities of commercial buildings. To unload would be fatal; to sit tight, expensive; to assume the rights and duties of landlord and make the buildings pay their way, is the obvious way out—and here the architect comes in

SOME order is beginning to shape itself out of the chaos which was the proprietorship of American real estate. Indeed, the debacle has not been as grievous as it might have been, though it is more than bad enough. That is to say, the number of absolute foreclosures in 1933 has been far less than the number of insolvent properties would warrant.

It is not too idealistic to attribute much of this to creditor forbearance. It is less idealistic to attribute some of it to legislative limitation of foreclosures. But it is also extremely certain, in any event, that the reason most mortgagees have not foreclosed is that building ownership, in these times, is almost invariably a liability. The mortgagees, therefore, would rather have the owner continue to struggle along, trying to get something out of his property, than to take on any more grief themselves. Meanwhile they would take what they could get in the way of interest and amortization.

Probably there would have been fewer surrenders of property to creditors if more owners had made a determined effort to carry on. But many of them had other businesses to save—the profits of which had gone into buildings as safe and sane investments for their latter years. So they lost courage and let their buildings go.

The cannier or, perhaps, pluckier owners either bargained for or were offered the retention of both title and management if they would make assignments of rent to the holders of the mortgages. Where this did not work out, the mortgagee sometimes assumed the management, the title remaining with the owner.

A painstaking investigation among savings banks and trust companies which have been compelled to take over buildings offered as security for mortgages or other loans, shows that the number held under rental assignment generally outnumbers those held under foreclosure. The ratio of assignments to foreclosures varies from 1 : 1 to 4 : 1. The average of all banks is probably 2 : 1. It is naturally heavier in the States which have put into effect moratorium laws prohibiting foreclosures on real estate, conditionally or unconditionally. The New York law, which is typical, is limited to one year and prohibits foreclosure as long as the owner pays his interest and taxes.

That, then, is the general situation which has prevailed since 1931, and which has led to the present new ownership or guardianship of an estimated 25 per cent of all real estate in the country, including farms.

Now what interests the architect in the present state of real-estate ownership is: (1) What persons or institutions actually own the buildings which have been transferred? (2) Are they going to hold them or dump them? (3) If they are going to hold, to what extent will they rebuild or remodel?

To arrive at the present ownership status of our buildings, let us recapitulate the principal methods of raising the building money other than the owner's equity, if any. In 1928 the principal methods of financing either the purchase or construction of buildings were:

(*A*) A mortgage loan by an individual, partnership, corporation, or institution. This is the oldest form of mortgage. In fact it was the only important form up to a generation ago. One class of lender in this category became so important that its mortgages require separate mention, namely:

(*B*) The Insurance Company Mortgage. The big insurance companies naturally turned to real estate as an investment outlet for the huge surpluses they had piled up. By far the greatest part of insurance-company mortgages are on city property. The figures for 1932 were: Farm, $1,701,149,000; city, $5,095,166,000.

(*C*) The Real Estate First Mortgage Bond Issue. These were often "Gold Bonds," which sounded quite impressive. Frequently also they were second mortgage bonds, or third or even fourth, which sounded less impressive. It will be recalled that a bond issue covered the mortgage on a single building, though sometimes several were pooled. Interest rates started at 5 per cent but rapidly advanced as competition became keener and the public acceptance became greater. When the crash came the interest rates had reached the impossible figure of 8 per cent. During the heyday of this form of financing building, the public was buying $1,000,000,000 worth of realty bonds a year. Altogether there were sold about $3,300,000,000 worth.

An imposing array of apartment houses on upper Park Avenue, looking north from 86th Street. Many of these are being managed by the banks under foreclosure or rent assignments

(*D*) Guaranteed Mortgages. These were sold to the public in the form of certificates of participation in a mortgage, guaranteed as to payment of principal and interest by the house of issue, usually a Title and Mortgage Company, a Guaranteed Mortgage Company, or some similarly styled institution. The certificates were purchasable in any amount, and covered either a mortgage on a single building or a pool of mortgages on a number of buildings. The total amount of guaranteed mortgages in 1932 was $3,900,000,000.

(*E*) Bank and Trust Company Mortgages. Savings and national banks have long considered mortgages on real estate as reliable and conservative investments for the funds deposited with them. So did the trust companies, though they were not as heavily interested in real estate as were the banks. The total of all real-estate loans by all banks and trust companies in 1932 was $9,941,000,000.

* * *

The mortgages under Class A, above, were mostly loans on small buildings: homes, multifamily houses, tenements, tax-payers, garages, and old buildings generally. Numerically, of course, they mounted into millions. When payments of principal and interest were in default for a long enough period, the mortgagee foreclosed and a sale followed, in the course of which the mortgagee usually bought in the property—but not always.

Companies have been organized to take advantage of the flood of small properties being swept into foreclosure and sale. They bid in the property at a few hundred dollars over the amount of the mortgage, and then hold it for a profitable sale.

Often, too, the distressed property owner will sell his deed for anything he can get for it. There is a thriving, if cold-blooded, barter in real-estate deeds in nearly every city. One reputable broker tried to salvage something for a client out of an apartment normally worth $65,000, which was about to be foreclosed to satisfy a mortgage of $26,000. He offered the deed of the property to a well-known barracuda, who, without a blink of the piscatorial eye, said: "I'll give you $100 for it." The broker briefly recommended an immediate destination to him and departed. He then went to the head of a small savings bank, told him the sad story, and asked for a bid on the deed. The kindly-faced president offered him fifty dollars.

The architect is not much interested in the present ownership of these small buildings, because they are invariably held for sale only. If there is any remodelling done it will probably be without benefit of plans.

The foreclosed property owned under Class B by the insurance companies is quite another matter. Following are some significant figures on two classes of investments held by fifty-one insurance companies representing 92 to 98 per cent of all United States legal reserve companies:

MORTGAGES	
End of 1930	$7,014,000,000
End of 1933	6,317,000,000
Loss	$ 697,000,000

REAL ESTATE OWNED	
End of 1930	$ 411,000,000
End of 1933	1,113,000,000
Gain	$ 702,000,000

It is hard to escape the conclusion that the "mortgages lost" became so much "real estate gained" by foreclosure and purchase. It was just a little matter of accounting.

However that may be, the insurance companies, like the Metropolitan Life and the New York Life, have always been able managers of property. They do not hesitate to build when it seems good judgment to do so. (Readers will recall the Metropolitan's housing development in Long Island City.) They also engage outside architects for planning and consultation.

* * *

Passing to Class C securities—mortgage bonds—the picture is less rosy for the architect. Most issues were made without any supervision by State banking or other departments. Many of the houses which issued the bonds are defunct. The only redress for the bondholders has been reorganization by their own committees. Generally they have foreclosed and bought in the property with little objection by the owner, whose equity was often too small to be worth a fight. In other cases, as in hotels where it was important to keep the owner-manager in possession, a new financial set-up has been arranged by which the bondholders receive, in exchange for their bonds, part cash and part stock. Under such ownership conditions it is not particularly likely that much construction will be undertaken—the more so as most buildings financed by bonds are comparatively new.

Class D securities, guaranteed mortgages, are loans on all kinds of property, urban and rural, small and large, old and new. Here, the situation is that the companies guaranteeing the payment of certain rates of interest and certain amortization of principal, are unable to do so because the properties do not earn enough. Hence the mortgages are in default and the companies in public or private receivership.

In New York, where the great bulk of the guaranteed mortgage business centred, most of the companies have been taken over, according to law, by the State Superintendent of Insurance. Their guarantees total $2,684,000,000, practically all in New York State. The Superintendent is making considerable progress in disentangling a badly knotted situation. Each

Apartment houses facing Central Park on the west side. Property in this neighborhood doubled and trebled in value while the Eighth Avenue Subway was being built, yet much of it is now in foreclosure property is reorganized to stand upon its own feet, under its original ownership if possible. Otherwise it is foreclosed, bought in, and the reorganization is undertaken by a mortgagee's committee. Here, again, it is difficult to see where the money is to come from if new construction is to be undertaken.

We now come to the largest as well as the most hopeful class of securities, *E*, bank and trust company mortgages. These institutions—the big ones, at least—were well organized to handle real estate before the present catastrophe. They have always had property thrown on their hands by foreclosure. When wholesale foreclosures became the order of the day they had only to expand to meet the demands of the new amount.

* * *

How efficiently they handle their real-estate obligations is best illustrated by outlining the methods of one of them, the Emigrant Industrial Savings Bank of New York City. At the end of 1933 this bank held $291,000,000 worth of miscellaneous mortgages. Mortgages over $1,000,000 totalled $16,000,000. The largest individual mortgage was $2,700,000. All the rest of the mortgages were loans upon tenement and apartment property in Greater New York. The bank was managing at that time $14,000,000 worth of foreclosed property and almost $30,000,000 worth of buildings on rental assignments. As property is taken over the bank's consulting architect, together with the appraiser and the real-estate department head, make a detailed inspection of the property and a report recommending what should be done with it. This is discussed at the regular Monday meetings of the bank officials and action ordered. Sometimes the remodelling recommended is quite extensive, as may be adduced from the expenditure to date—nearly $2,000,000. This is about 15 per cent of the total value of the property taken over.

Here is another instance of real-estate operation on an even larger scale. The Manufacturers Trust Company is one of the largest in the United States. It operates some fifty-five branches in New York City. Its annual income from rentals alone is $7,000,000, as of the end of 1933, which gives some measure of its holdings. These include: (*a*) Buildings owned outright; (*b*) Buildings leased and sublet in part; (*c*) Buildings operated under rental assignments; (*d*) Buildings owned by corporations whose stock is controlled as collateral for loans.

These buildings number nearly 200, and include office buildings, high-grade and lesser-grade apartments, tenements, lofts, factories, two- and three-family houses, dwellings, and vacant plots. It requires a full-fledged management department to operate all this property. It is, in fact, one of the most efficient anywhere. Inside, the department has 105 employees; outside, 400, including 40 mechanics.

In the case of this and other trust companies, the maintenance of real estate operated is of a high standard of excellence. Considerable remodelling operations are undertaken if it is calculated that the revenue of the property will be increased thereby. In some cases substantial additions have been made to buildings and in others vacant property has been built upon. Architectural firms are retained for all but minor operations.

This gives a quick, comprehensive review of the present status of building ownership, and the immediate prospect of architectural employment on the different classes of foreclosed property. There is this to be added, however:

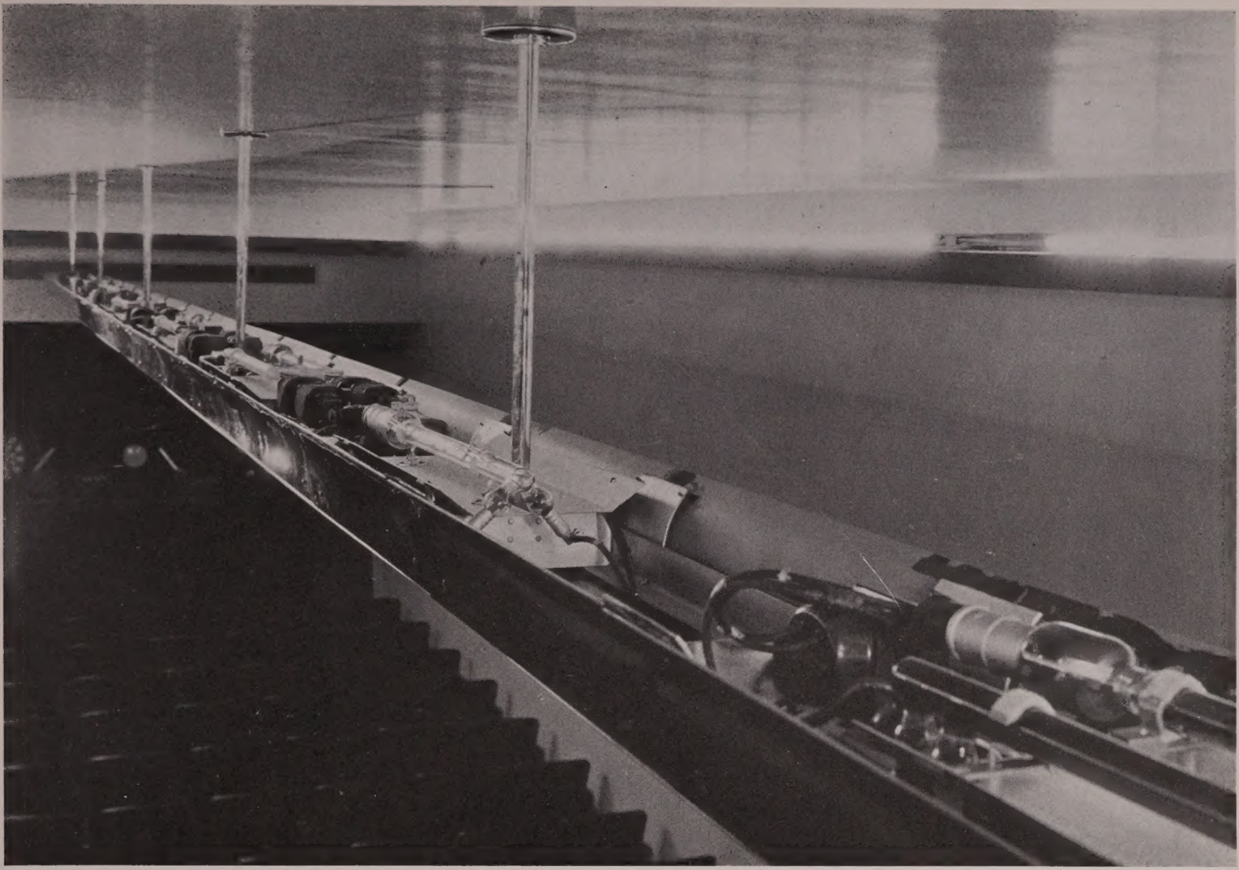
Banks, trust and insurance companies, while they do not want to stay in the real-estate business, are prepared to keep their holdings over a period of some years. The president of one of them tells us that they are proceeding on the basis of a liquidation period of seven years. In other words there will be no dumping of real estate. Dumping, indeed, would defeat its own purpose.

* * *

So it may confidently be expected that the tenure of responsible ownership will be sufficiently long to lead to a considerable amount of reconditioning and reconstruction. How much new construction there will be is problematical. As the buildings are liquidated, *e. g.*, sold for demolition, the probability that the buyer intends to build approaches a certainty.

The government's action on the proposed further extension of the public works program, of which a large proportion is to be for all kinds of housing, will be the dominatingly decisive factor.

In an article to follow, next month, Mr. Farrell shows in detail what has been done by one bank in rehabilitating three apartments of widely differing types.
—EDITOR.



Looking down into the trough fixture, showing the mercury vapor and neon lamps with their auxiliary apparatus

Luminous Tubes for Lighting

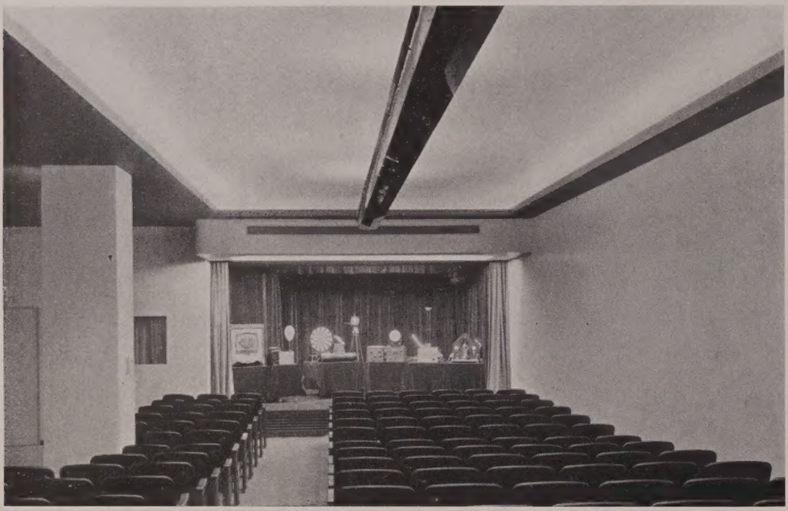
By Eugene Clute

IT is a long stride from the neon signs, whose orange-red glow has become a feature of every Main Street throughout the land, and from the old Cooper Hewitt mercury lamps, whose ghastly greenish-blue light has had a limited use in industrial plants for more than a generation, to the new light sources that produce synthetic daylight from a combination of improved neon and mercury-vapor units, and decorative colored lighting as well. These new tube lights bring a new aid to interior lighting and are sure to play an important part in the illumination and decorative lighting of the larger interiors. They have passed the experimental stage and are ready for architects to use.

They possess very great advantages over the familiar incandescent bulbs for certain purposes. For one thing, visually white light can be produced by their use at about the same cost for electric current as light from incandescent lamps, which is far from white. There is a growing demand for the approximation of daylight color and for decorative effects in colored light in interiors, which the new tube lighting is especially well able to meet.

Since these gaseous-conductor lamps give colored light, they afford a highly efficient means of using color as an important feature in the decorative lighting of such interiors as theatre auditoriums and other large spaces in which striking schemes of illumination are often desired. The cost of producing colored light from the light of incandescent bulbs for such large-scale installations is practically prohibitive, mainly because from 85 per cent to 98 per cent of the light output of the incandescent bulbs, varying with the colors, is absorbed by the colored glass that must be used to give the light the desired hue through filtration. Gaseous-conductor tube lamps, on the other hand, give light that is already of the right color or nearly so, requiring little if any modification by means of tinted glass tubes and avoiding the attendant waste. All or nearly all of the light produced by these tubes, again depending upon the color, is used, and consequently the cost for electric current is only a small fraction of the cost of producing decorative light in colors with incandescent bulbs.

Incidentally, much less heat is given off by these tube lights than by incandescent lamps, and this is an important consideration where the installation is large, such as in the decorative lighting of auditoriums or other places in which a large number of people assemble. It reduces to a minimum the need for ventilating the light sources—often a serious problem where many incandescent bulbs are used. It also tends to make much easier the maintenance of a comfortable room temperature in warm weather.



A conference room in the General Electric Company Building, New York City—Hood & Fouilhoux, architects. The trough fixture running down the middle of the ceiling is that shown in detail on the previous page. In a gun-metal mirror trough the neon and mercury vapor lamps produce a visually white light as well as varied color combinations. The scheme was conceived by A. L. Powell, illuminating engineer, and executed by the A. Ward Hendrickson Co., Inc.

Tube lighting does away with the task of constant re-lamping—a considerable item of expense in any building where there is a large installation of incandescent lamps, chiefly for the labor involved. The tubes are very long-lived and the maintenance of such units is not difficult.

The neon tube lamps for interior lighting differ very greatly from the neon tube signs, though the light of both is due to the fact that neon gas gives off an orange-red light when a current of electricity is passed through it under suitable conditions. Neon is one of the five rare gases that are present in the earth's atmosphere, the others being helium, argon, krypton, and xenon. The practice of calling gaseous-conductor tube lighting of all kinds "neon" is incorrect. It is neon light only if the tube emitting it contains neon gas. Since this gas never gives light of any other color than red, such terms as "white neon," "blue neon," and "green neon" light are incorrect. These colors in signs are produced by tubes containing some other rare gas or gases, but not neon.

Luminous tubes as used in signs give very little light, though they appear very bright and can be seen for long distances. It was necessary to produce a type of unit much more efficient in light production, and more compact, before light derived from a tube containing a rare gas could qualify as a means of interior lighting in more than a very limited way. Also the sign tubes operate on high voltage, requiring the use of a transformer in conjunction with the tube to step up the current, and this is an obstacle to the employment of this type of unit in interior lighting. For some years scientific experimentation has been carried on intensively with the aim of producing a type of neon-tube lamp suitable for lighting purposes. This effort has resulted in the production of the hot-cathode, low-voltage type of neon lamp. It is highly efficient in lumen output for the wattage of current consumed and operates on the 110–112-volt lighting current commonly furnished. This type of neon lamp is used in conjunction with mercury-vapor lamps to produce the new visually white light; it is also used independently to produce red light efficiently and economically for decorative lighting effects.

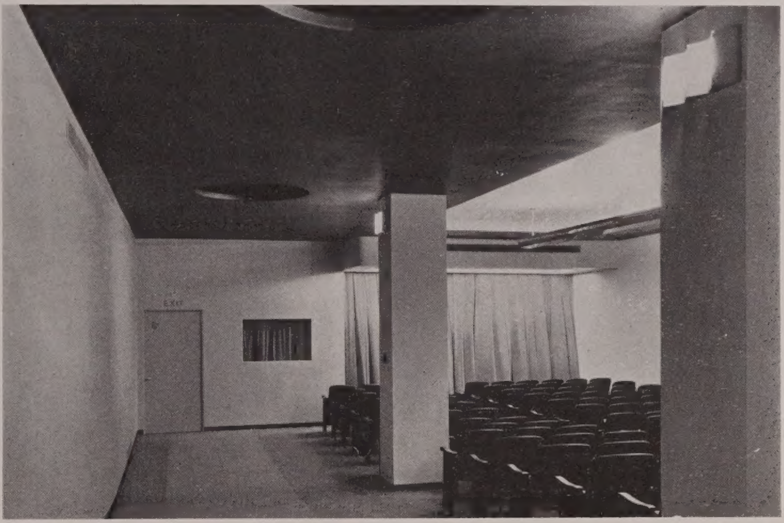
The mercury-vapor lamp used in combination with the neon lamp in producing approximately white light and color effects is also of a new and highly developed type that is very efficient in light production. It operates on the usual 110–120-volt lighting current. The light it gives is of the greenish blue characteristic of mercury vapor lamps. Very little modification, by means of an enclosing tube of light blue glass or of light yellow glass, is needed to convert this light into a fine blue or a good green.

So, with neon light for the red and mercury-vapor light, properly modified, for the blue and green, we have the necessary components of white light. By placing tube lamps giving light of these three colors together in a light source with proper reflectors to blend the colors, we can produce a mixture white in effect. By using them more or less independently we can produce decorative colored lighting.

Some very interesting practical applications of this new tube lighting have been made in a room designed by Hood & Fouilhoux, architects, and only recently completed. It is a conference room in the General Electric Company Building at Lexington Avenue and Fifty-first Street, New York City, used for the demonstration of scientific advances in the application of electricity and for the presentation of electrical experiments that suggest some of the almost unexplored possibilities in the field of electrical research. It is known as the "House of Magic." Several photographs of this room are shown here.

The principal light source is a trough fixture suspended from the ceiling down the length of the room. The gaseous-conductor tube lamps it contains can be seen in one of the photographs taken looking down into the fixture. There are seven of these units: two neon lamps with clear glass tubes giving red light; two mercury-vapor lamps with tubes of pale yellow glass giving green light, and three mercury-vapor lamps with tubes of light blue glass giving blue light. The auxiliary—or accessory—apparatus required by these lamps is seen also in this view of the inside of the trough. It is usually well, when space in the light source is available, to have the auxiliaries closely connected with the lamps, though it is not necessary. This apparatus may be at some distance, concealed in another part of the room, permitting the use of a smaller fixture. But in that case the wiring connecting the auxiliaries with the lamps must be of a special kind. There is no great difficulty about this, however. Usually there is nothing to prevent designing the housing of the light source to accommodate the auxiliaries, as well as the lamps, as in this instance.

The light of these lamps is projected upon the ceiling, which diffuses, blends, and reflects it downward into the room as a flood of soft white light. A very interesting decorative effect in colored light is produced upon the ceiling itself, for there are areas of color corresponding to the colors of the lamps directly below them and areas of other colors between these, caused by the mingling of adjacent colors, all grading out in progressively lighter tints away from the light source until they are lost in white near the edges of the ceiling. Then, too, there are varied enlivening colors in all of the shadows in the room. Blue, red, orange, green, cerise, and other hues. They add to the interest and are not disturbing, for they are soft in tint. If there were relief ornament or even bosses of any kind upon the ceiling, shadows of various colors would be cast. These colors have remarkable beauty due to their luminosity. They are living colors, like those of the rainbow. If these effects are not desired in a room, the colored lights can be blended more thoroughly by adapting the design of the light source to this end.



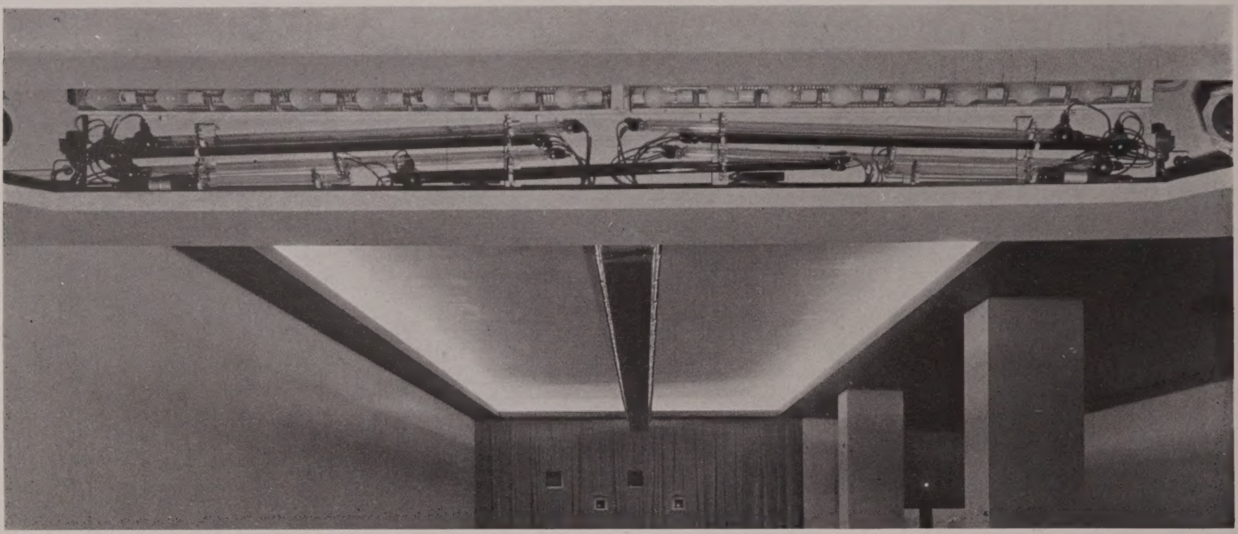
The conference room has a wide side aisle between the piers and the wall. On the latter objects are hung for demonstration and these are evenly lighted by the luminaires at the tops of the piers. Control lenses, set in a saw-tooth plan, direct the light from ordinary incandescent lamps upon the wall, without back glare—a form of lighting well adapted to corridor use or for lighting exhibition walls or mural paintings

There is a light source in this room in which the tubes are placed close together in approximately parallel lines, and it produces a mixture of colored lights that is white in appearance and that is without these color effects, for it blends the light from the different units more thoroughly. This light source is built in and is concealed at the ceiling just in front of the platform, upon which it projects its light.

There are in this room two new forms of incandescent lighting that I believe are sufficiently interesting to justify my digressing to describe them briefly. The cove lighting around the main ceiling employs the new lumaline tubular incandescent filament lamps, which are so designed that they can be set to form a practically continuous line of light. They can be seen in the photograph that shows the interior of the trough fixture. The other feature is a new type of luminaire mounted on the piers between the main room and the broad, clear floor space that extends all along one side of the seating area. Each of these luminaires consists of an arrangement of three control lenses on a sawtooth plan, with 100-watt incandescent lamps with reflectors back of them, all mounted in a suitable housing. These units, which are very neat and unobtrusive, project widely distributed light upon the wall opposite to the piers, from which it is reflected. They are especially well adapted to the lighting of the lobbies of motion-picture theatres, office-building lobbies, and corridors, and to other areas in which it is desired to provide well-distributed light, free from glare, by means of simple compact light sources. The lighting of the room is under thyratron control.

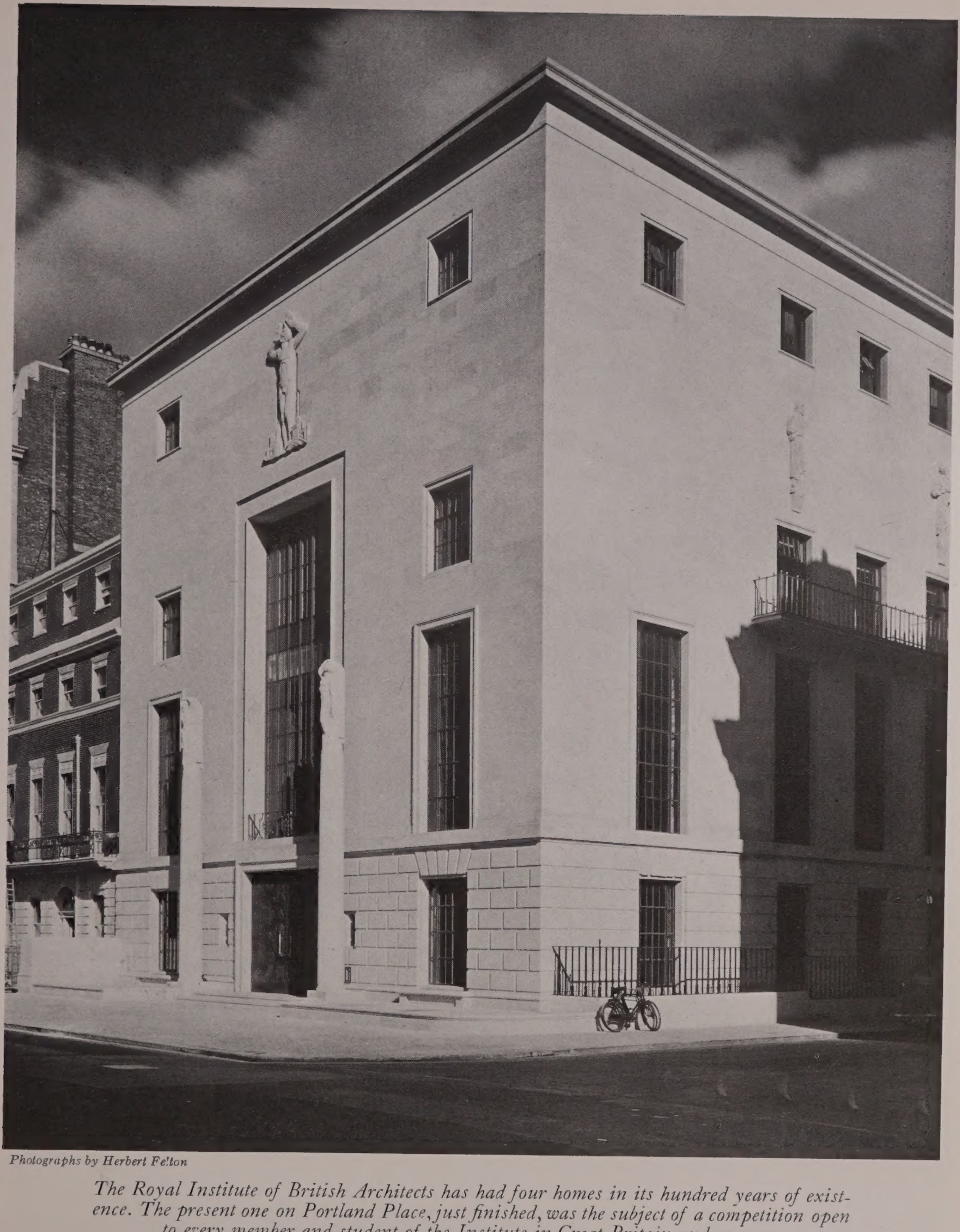
The decorative treatment of this room may well be described: Walls are painted a very light tint of French gray, and the border of the ceiling around the white central panel is painted black; upholstery of the chairs is of a plain leather-effect fabric of light Chinese vermilion color, and the draperies at the sides of the platform are of a red velvet of the same hue; sides and back of the platform recess are hung with black velvet in folds; carpet is taupe. With this scheme the trough fixture harmonizes well, for its outer surface is of gun-metal mirror glass, and it hangs from tubular supports in chromium finish.

The lighting installation in this room was conceived by A. L. Powell, the supervising illuminating engineer, and carried out under his direction. The fixture was designed by the architects, Hood & Fouilhoux, in collaboration with the A. Ward Hendrickson Co., Inc., who constructed it.



Detail of the built-in light source above and in front of the platform, in the same conference room, showing the mercury vapor and neon tubes for the production of a light closely approximating daylight. There are also three mercury vapor ultra-violet lamps and the upper series of incandescent lamps, making possible many special effects for demonstration purposes

This new tube lighting lends itself to a very wide variety of treatment. As can be seen readily, the lamps can be arranged in a row in built-in light sources, or in fixtures against the ceiling, quite as well as in this trough fixture. Also, tube lamps of this gaseous-condutor type can be placed side by side and close together in ways other than the arrangement seen in the light source that illuminates the platform in this room. They might very well be concealed back of large, translucent wall panels of glass enriched with sculptural ornament, either carved or cast in the glass. The characteristics of these units, from a design standpoint, are such as to make them very flexible in working out treatments to meet the architect's requirements.



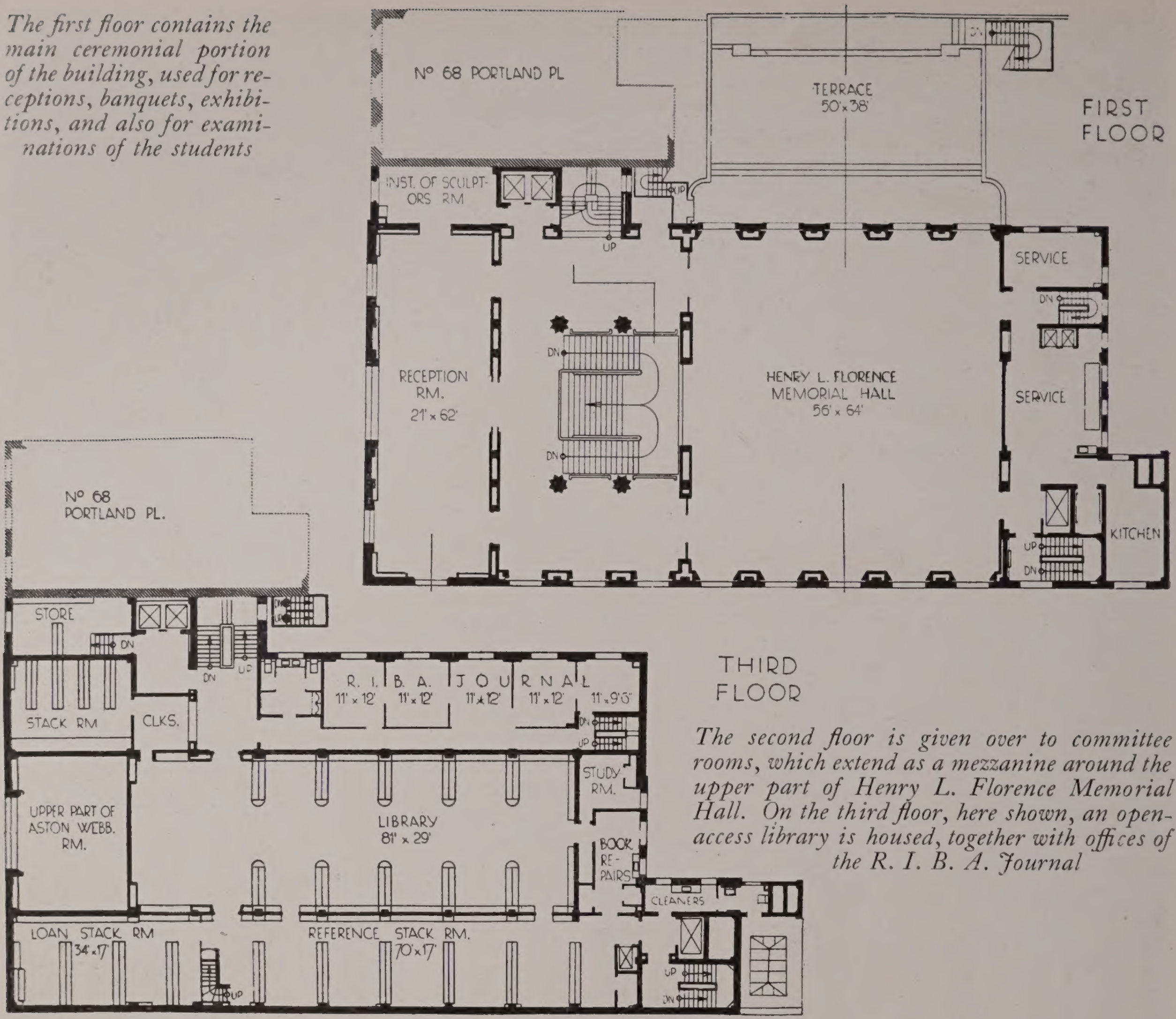
Photographs by Herbert Felton

The Royal Institute of British Architects has had four homes in its hundred years of existence. The present one on Portland Place, just finished, was the subject of a competition open to every member and student of the Institute in Great Britain and overseas

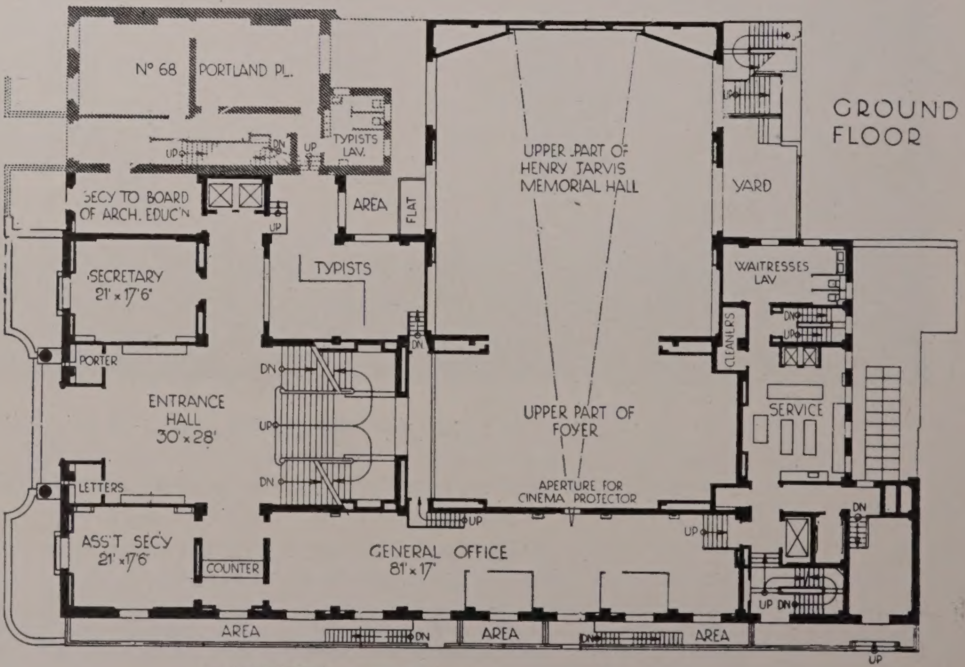
G. Grey Worum, architect

New Home of the R. I. B. A. in London

The first floor contains the main ceremonial portion of the building, used for receptions, banquets, exhibitions, and also for examinations of the students



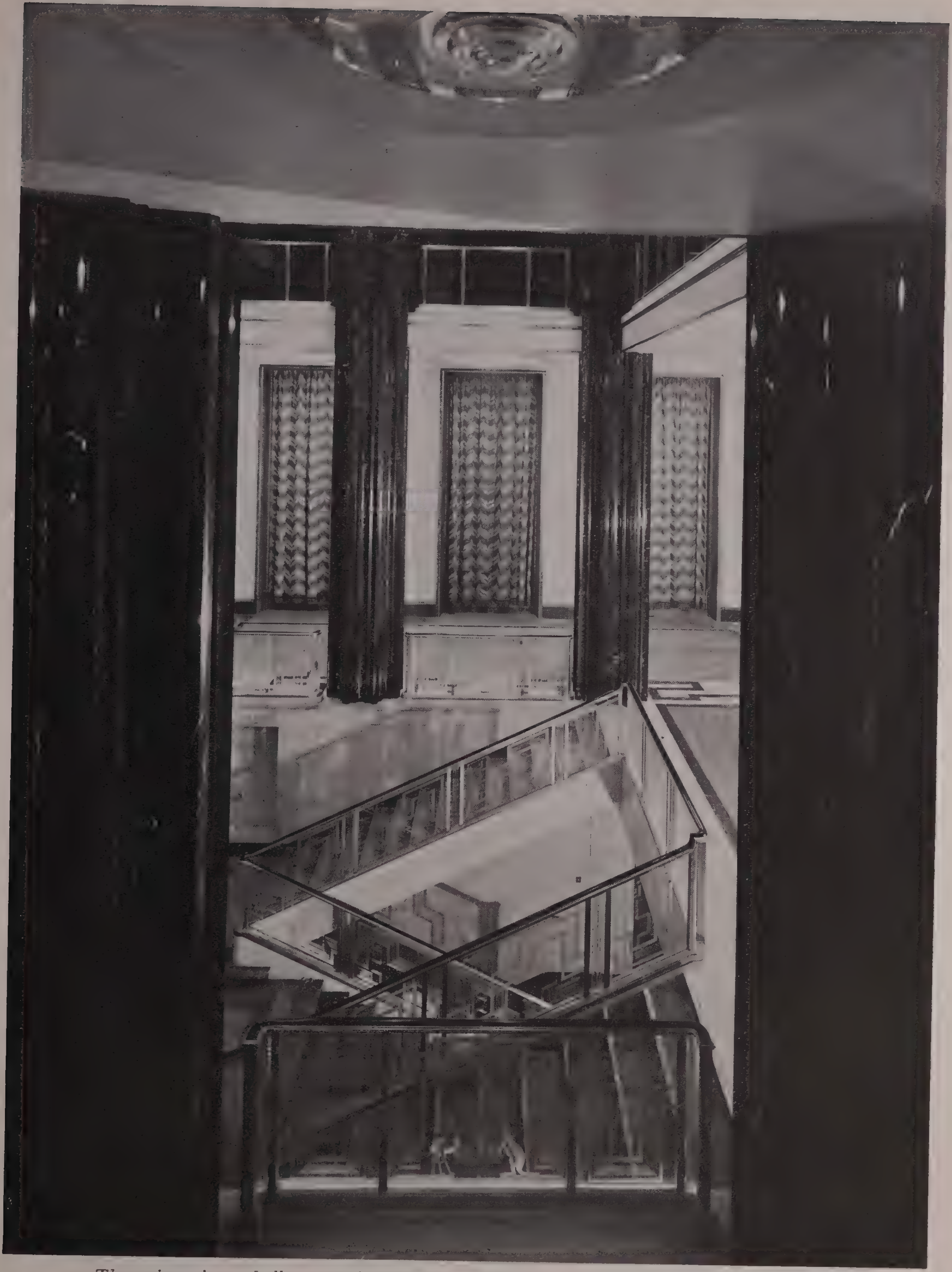
The second floor is given over to committee rooms, which extend as a mezzanine around the upper part of Henry L. Florence Memorial Hall. On the third floor, here shown, an open-access library is housed, together with offices of the R. I. B. A. Journal



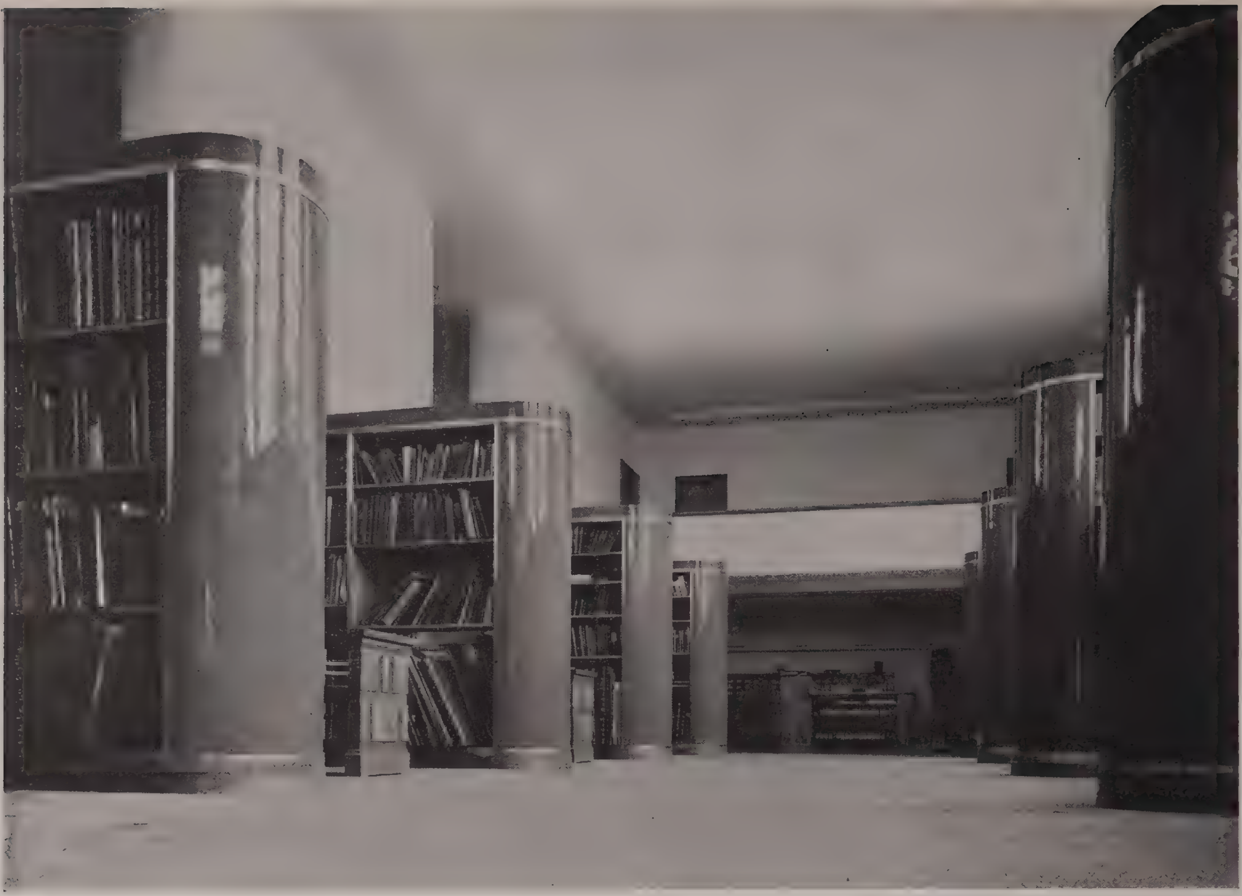
The ground floor houses the office organization of the Institute, grouped about the upper part of the Henry Jarvis Memorial Hall, which starts at the basement level. This latter hall is the general meeting room of the Institute

DEAD POEM

sculptured figures on the columns symbolize the spirit of man and of woman as the creative forces of architecture. James Woodford was the sculptor for these and also for the bronze doors

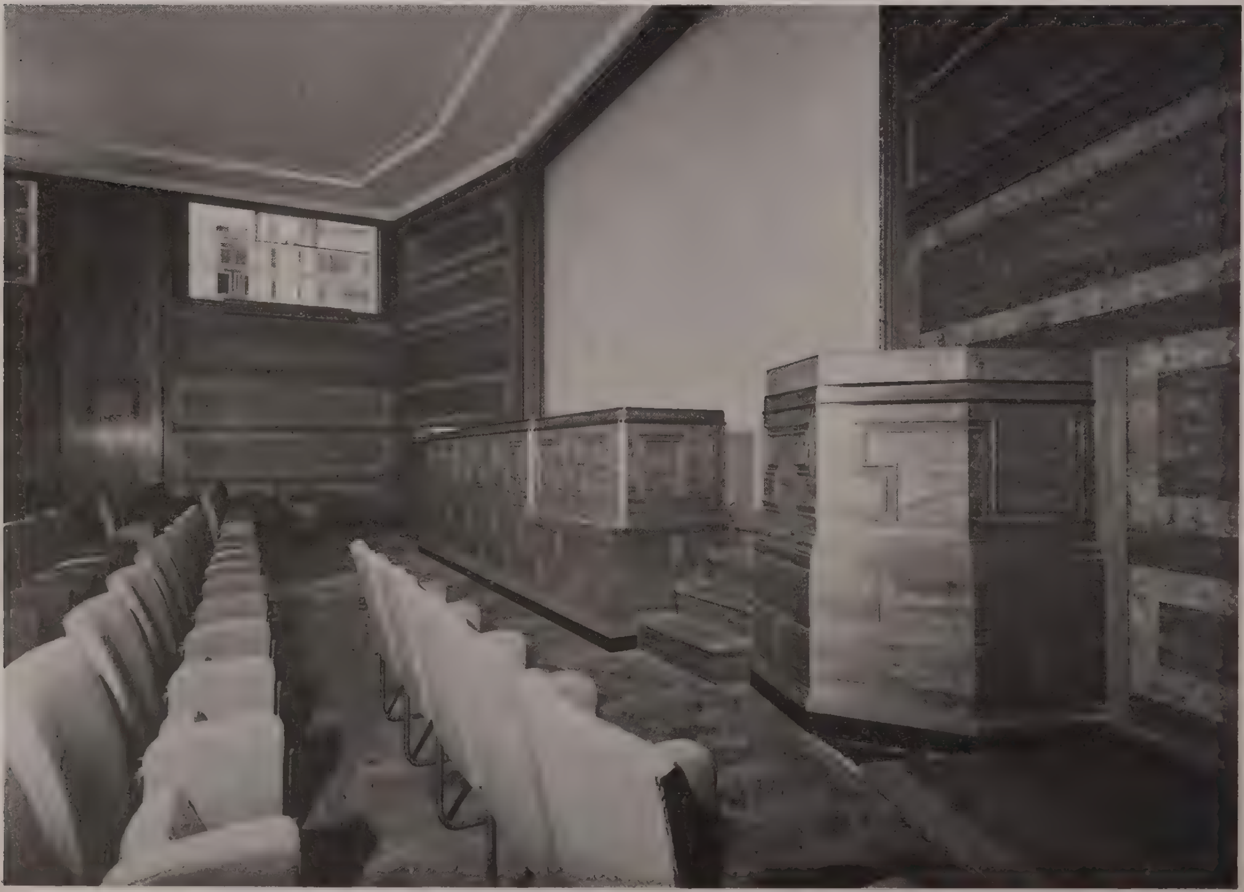


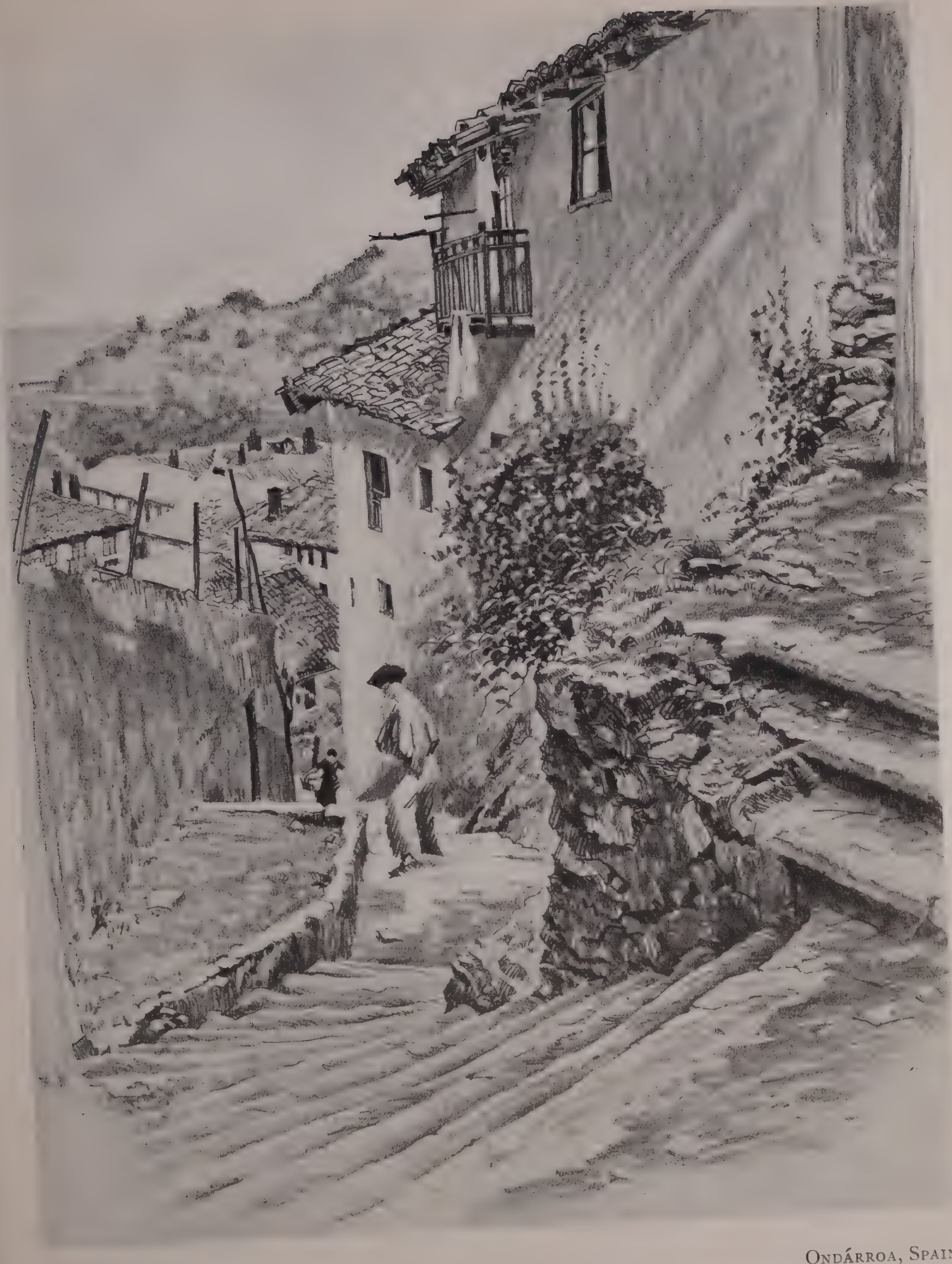
The main staircase hall, as seen from the balcony of the side staircase. The columns are cased in Ashburton marble, mostly black with a faint dull red veining. Treads and landings are of blue Demara marble; risers are of Black Birdseye; balusters and stair railings are of silver bronze, ebonized mahogany and etched glass, lighted from tubular lights in the base



The library. In the rounded ends of the cases the architect has put his radiators and his indirect lighting units. The steel of these cases is enameled blue outside, yellow on the inside, with moulding of polished silver-bronze

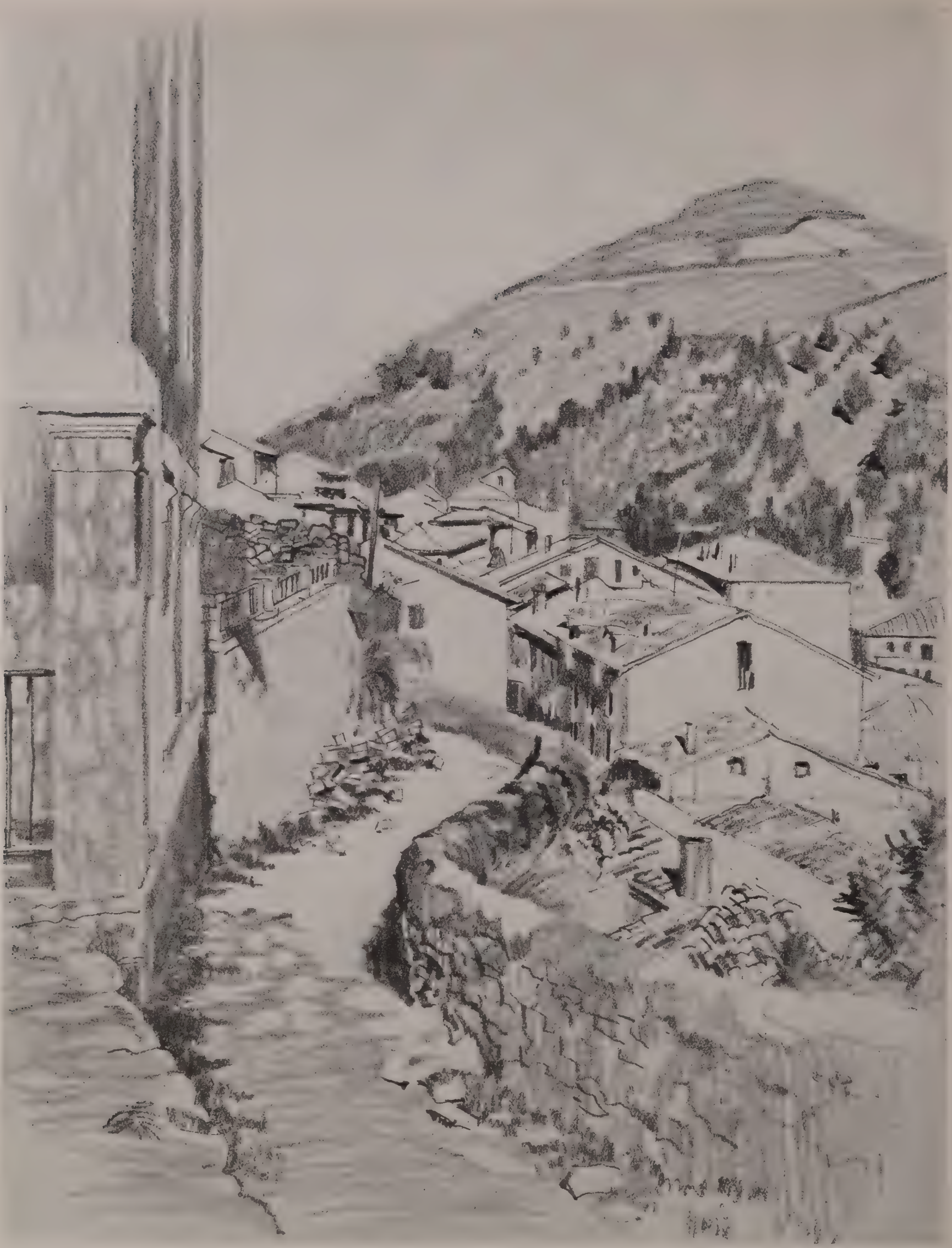
The dais end of the Henry Jarvis Memorial Hall. Woodwork is of figured teak, olive ash and black bean. The meeting-room seats 350





ONDÁRROA, SPAIN

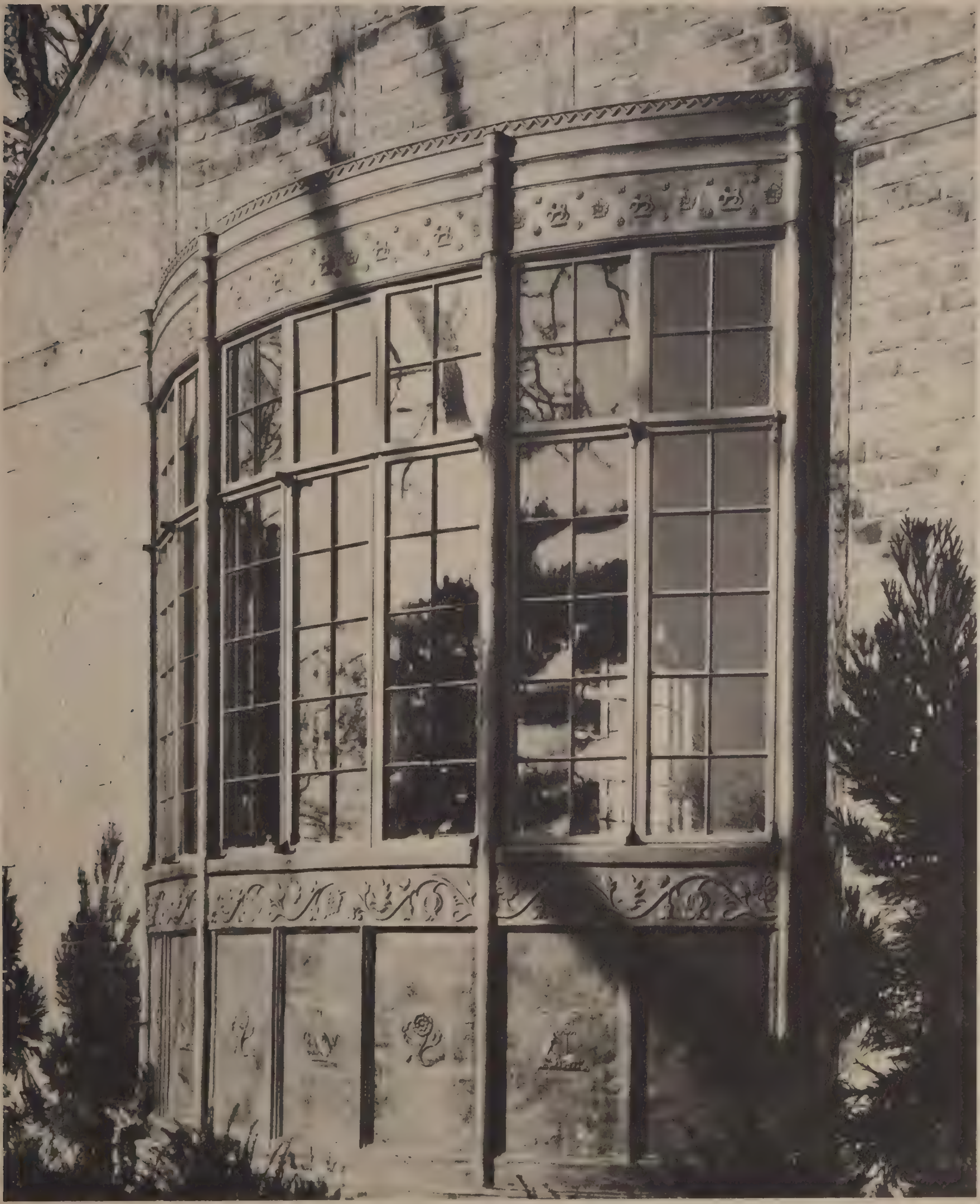
From the pencil drawing by
JOHN WRIGHT ARMSTRONG



ONDÁRROA, SPAIN

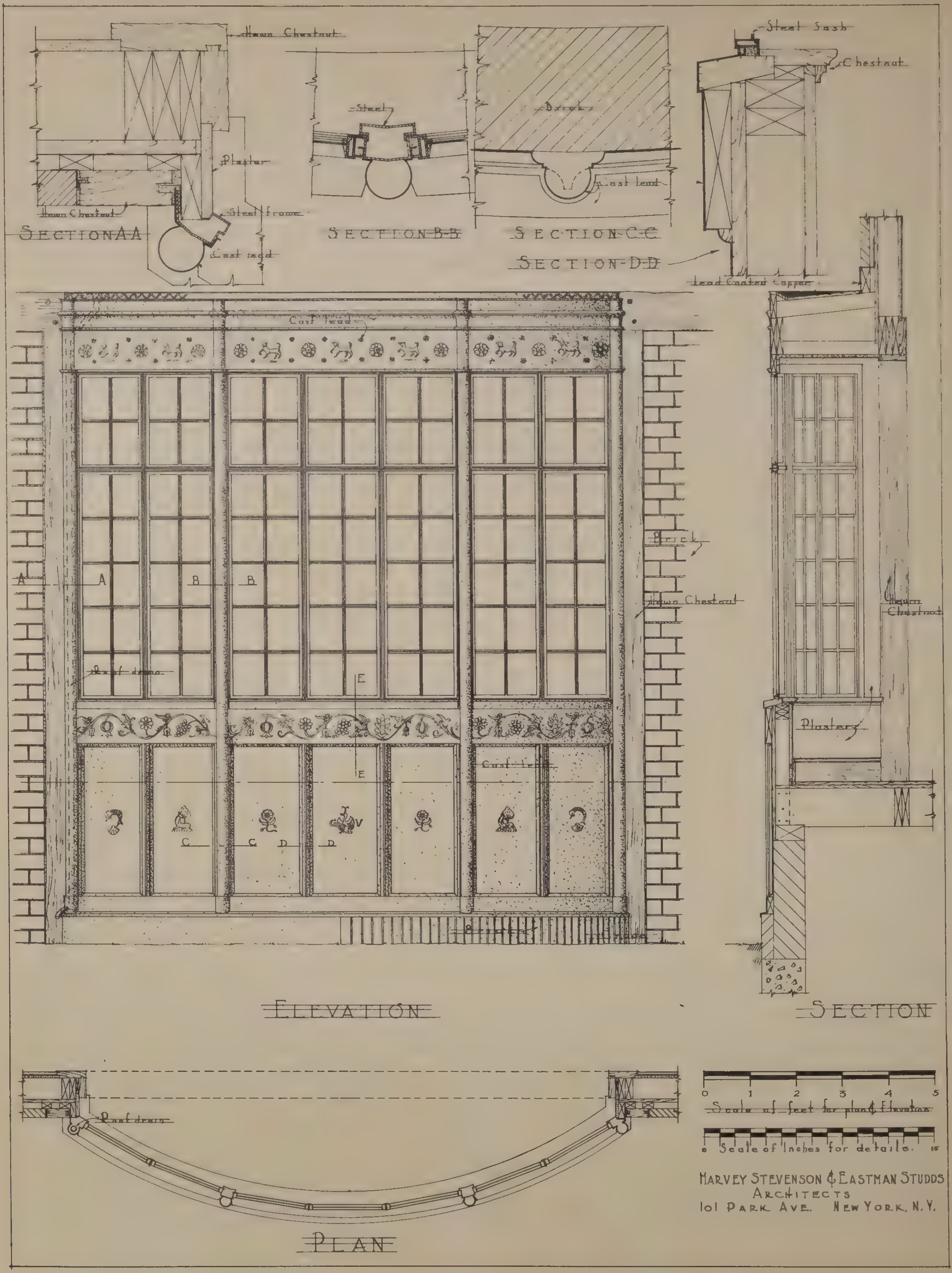
From the pencil drawing by
JOHN WRIGHT ARMSTRONG

FAVORITE FEATURES



Many of the architect's creations fail to measure up to his expectations. Here is one of a series, however, that satisfy, in a measure, the designers themselves
(*Scale details overleaf*)

Living-room Bay, House of G. T. Vought,
Montclair, N. J.
HARVEY STEVENSON & EASTMAN STUDDS
ARCHITECTS



Living-room Bay, House of G. T. Vought
Montclair, N. J.

Harvey Stevenson & Eastman Studds, architects

The Reflecting Pool

Erwin Bateman Morris

I GREATLY admire the architectural work and the architectural writings of Mr. H. Van Buren Magonigle, whose point of view in both these fields is illuminating.

I have been reading with considerable zest and not a little excitement the recent exchange of views between Mr. Magonigle and the rest of the architectural profession, and while I cannot wholly agree with the former I am certain that his criticism of the American Institute—a grand old organization founded with an unselfish purpose—is very closely skirting the truth.

The unselfish purpose of the Institute has been accomplished, the architect has been recognized as an artist. The Institute now needs to establish the place of that artist in the national scheme and see that he is not ousted from it.

That is a difficult matter—it needs men of vision to see what and where that place ought to be, and men of diplomacy to see that it is attained and occupied.

My feeling is that the Institute needs more admirals at the head of it. It is an axiom that a good administrator makes a poor architect and, conversely, it appears to be true that a good architect makes a mediocre administrator. At any rate, it has been the practice of men who are foremost in this profession to employ hard-headed persons to manage the administrative side of their offices.

Similarly, the American Institute, which is the business and diplomatic voice for the whole profession, should be led by persons who preferably have not the fine, glorious, inspirational temperament of the top-notch designing architect. You need men with the ability to find facts and fit conclusions to them instead of finding agreeable conclusions first and seeking facts later. You need persons with the talent to understand that there is another side of every debate, and that in every honest controversy the aspirations and needs of the other side must first be understood before the steam roller is started.

The Institute needs ambassadors to fit the organization and its members logically into the social scheme, so that the architects will render the greatest service not only to themselves but to the agency by whom they are employed, whether it be government, state, or private business.

And the heads of the Institute should be firm. Having arrived at a just solution they should present to the members a strong-arm review of the situation and their reasons for decisions, and not be swayed by bitter, uninformed outcries, which tend to steer them into indefensible situations that eventually lead to disappointments.

The recent troubles of the Institute in its relations with the government, which is ever anxious to help, have been because the Institute has been too desirous of laying down rules for procedure and not desirous enough of discovering what objectives it was necessary to obtain.

At the present time the Treasury Department has evolved a scheme for distributing government architectural work in a way which, while primarily devised to insure speed in getting the work under contract, has been of greatest possible benefit to the members of the architectural profession as a whole. And yet the American Institute is opposed to it.

In the past half-year, six hundred technical men, mostly architects, have been employed by the Treasury Department as a result of a system under which private architects were called to Washington to supervise the preparation of drawings.

When private architects are given commissions to do work at their home offices, they prefer—and it is natural—to do as much of the drafting as possible themselves rather than to put on full head of steam and increase their overhead by employing many draftsmen.

The Treasury Department's scheme has resulted, therefore, in employment for hundreds of men who would otherwise have remained unemployed.

What the Institute needs is leaders with a capacity for understanding rather than for disagreement. If the government is a large potential client, it should be treated as any other client. And the first question in dealing with a client is, "What does he want?"

* * *

IN Washington—and I have no doubt the matter extends further—architects are prone in a casual sort of way to wonder what each new President thinks about architecture. Do its discords jar upon him? Do its harmonies fill his soul with peace?

It is not a sternly important matter, as the executive mind is so fully occupied with laying foundations for vast diplomatic coups and with erecting legislative structures that there remains little time for the consideration of actual buildings.

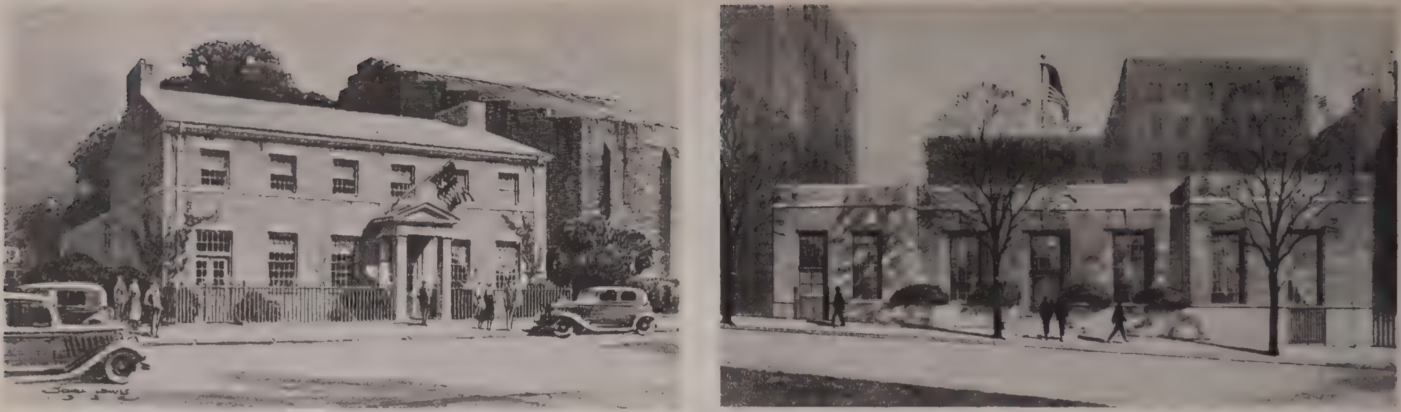
But now and again there holds sway in the White House a person who believes that only by the erection of buildings of dignity and appropriateness can the progress of civilization be properly marked.

That takes a statesman who has had the time and opportunity to dwell upon other matters than just statesmanship, whose soul is mellowed to cultural ideas, whose eye rests kindly upon beautiful things.

We were intrigued the other day to note that President Roosevelt had laid a potentially healing hand upon the Congressional Library, the capital's ugly duckling, suggesting to the architect of the Capitol that consideration be given to refacing the building and omitting the dome.

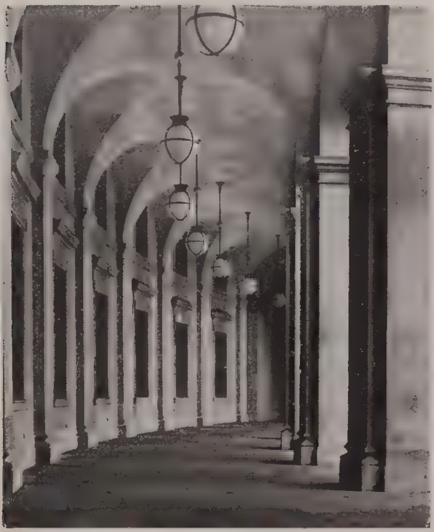
It would be a pleasant thing, if after years of appearing in public in her fussy little hat, her fussy little frills, and her fussy little pantalettes, old Lady Library at last might come out in a proper gown which would entitle her to stand there in the receiving line without blushes and without embarrassment.

Some one may have suggested the idea to the President. Or, more probably, long familiarity with Washington has made him feel the incongruity of the earnest anxious building across from the Capitol, which tried so hard to be a monumental structure, and wish to make a correction in it. If the plan for redesign goes through, the President should be made a Fellow of the Institute, for architectural accomplishment.

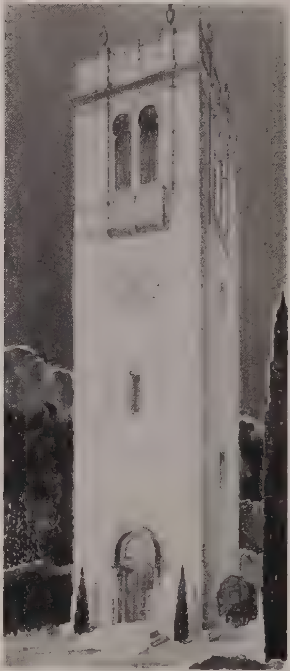


Two recent works coming out of the Supervising Architect's office: at left, Kensington Station of the Brooklyn Post Office—Lorimer Rich, designing architect; rendering by Schell Lewis. On the right, Station M, U. S. Post Office in New York—William Dewey Foster, designing architect; rendering by Rees Weston

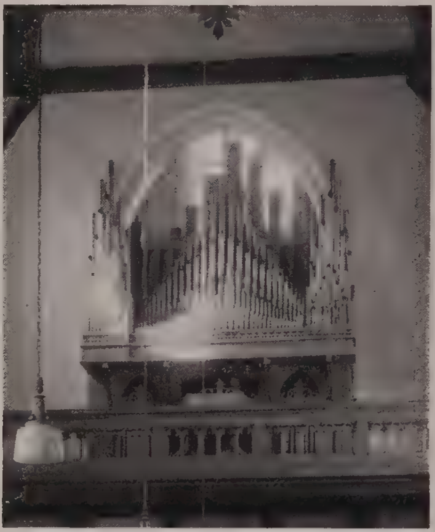
Architectural News in Photographs



In the arcade on the east side of the Post Office Department Building in Washington, an element in the Triangle, now almost completed. Delano & Aldrich, architects

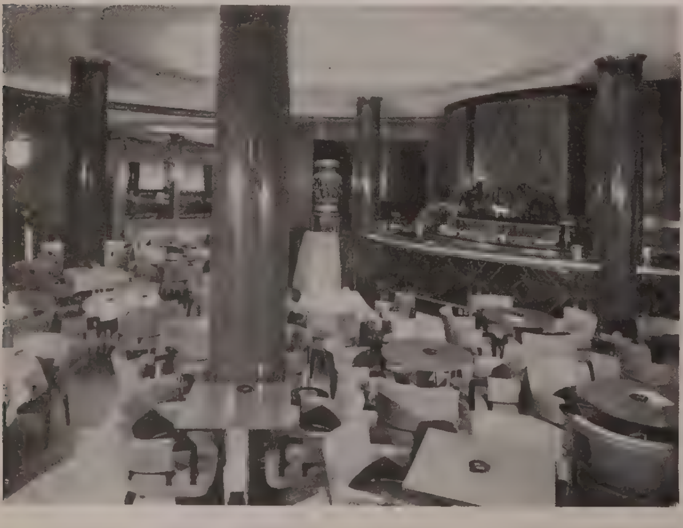


Carillon Tower for the University of Wisconsin, now under construction. Arthur Peabody, state architect

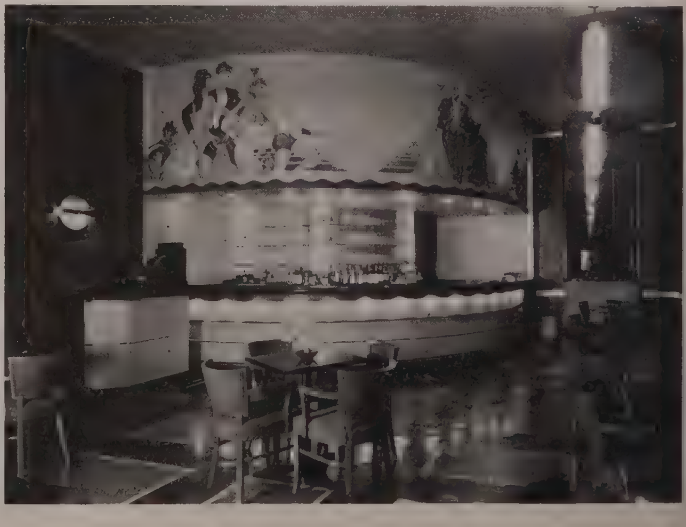


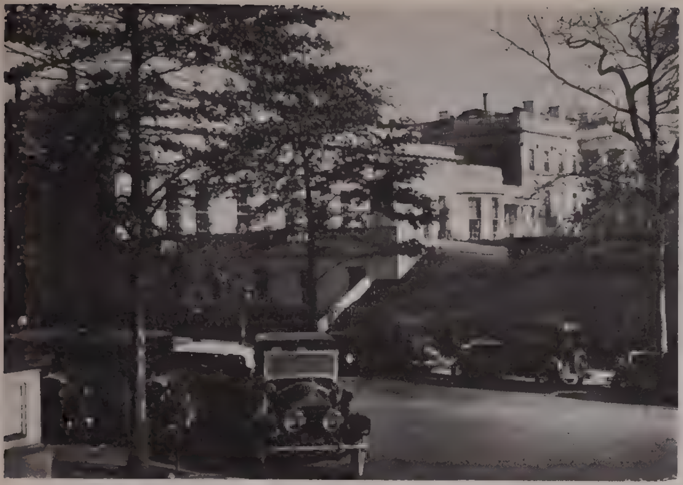
Another example of the strong tendency towards making the speaking pipes of an organ take the place of a false screen. Designed by The Votteler Holtkamp Sparling Organ Company

The new Men's Bar of the Waldorf-Astoria, New York City. Schultze & Weaver, architects

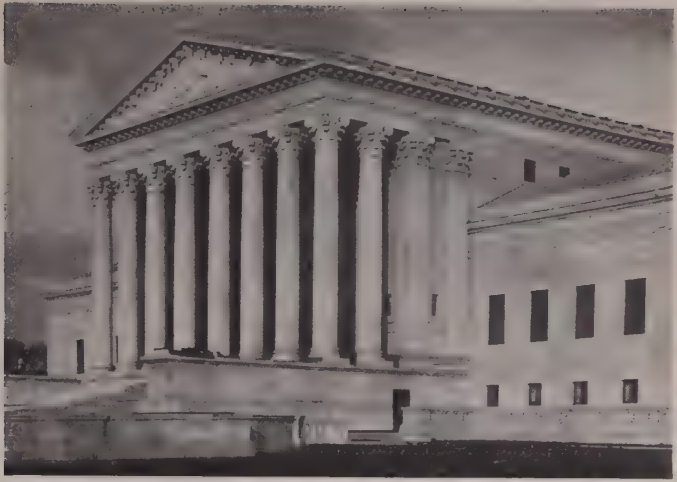


The new Bar in the Benjamin Franklin Hotel, Philadelphia. Lyman W. Cleveland, interior decorator

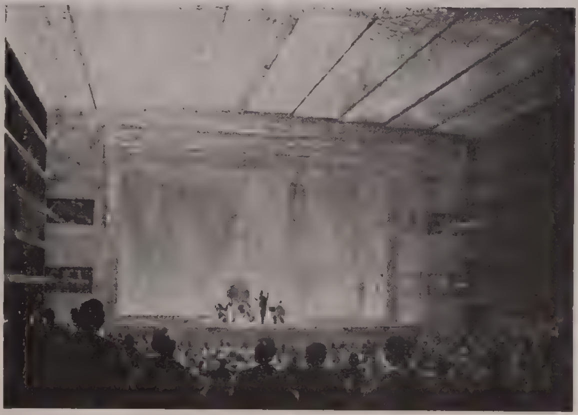




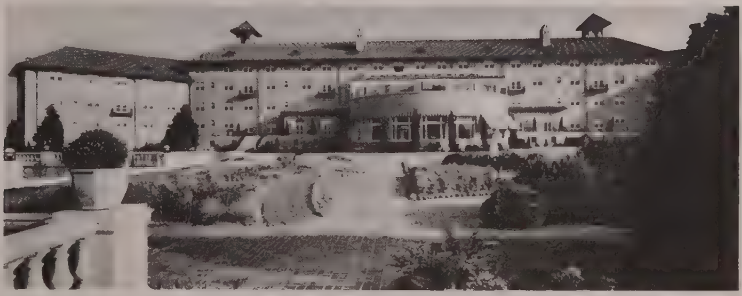
Additions to the Executive Offices adjoining The White House, part of which are below ground, lighted by a central court. Designed by Eric Gugler in collaboration with the National Park Service



Entrance front of the Supreme Court Building, Washington, which building is nearing completion. It is in this pediment that Robert Aiken has placed figures strongly reminiscent of Cass Gilbert, Root, Hughes, Taft, and the sculptor himself

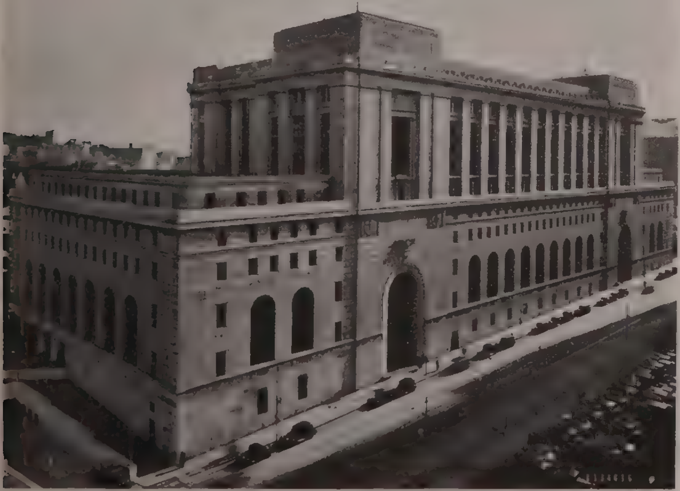


Winning design for the broadcasting auditorium of WGN, adjoining the Tribune Tower, Chicago. Designed by Ernest A. Grunsfeld, Jr.

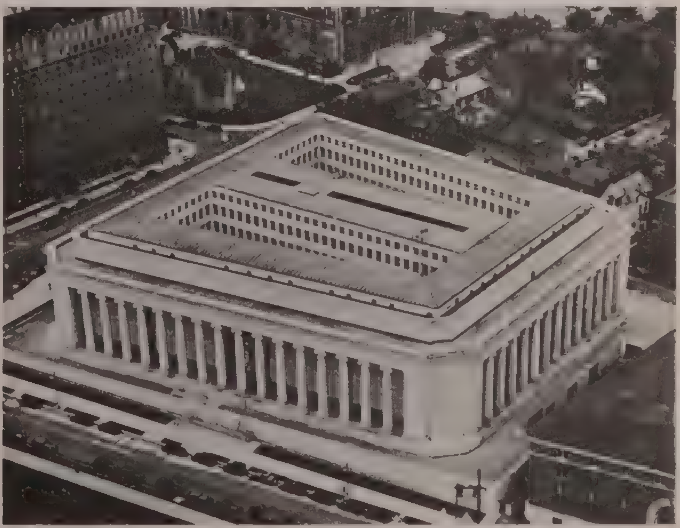


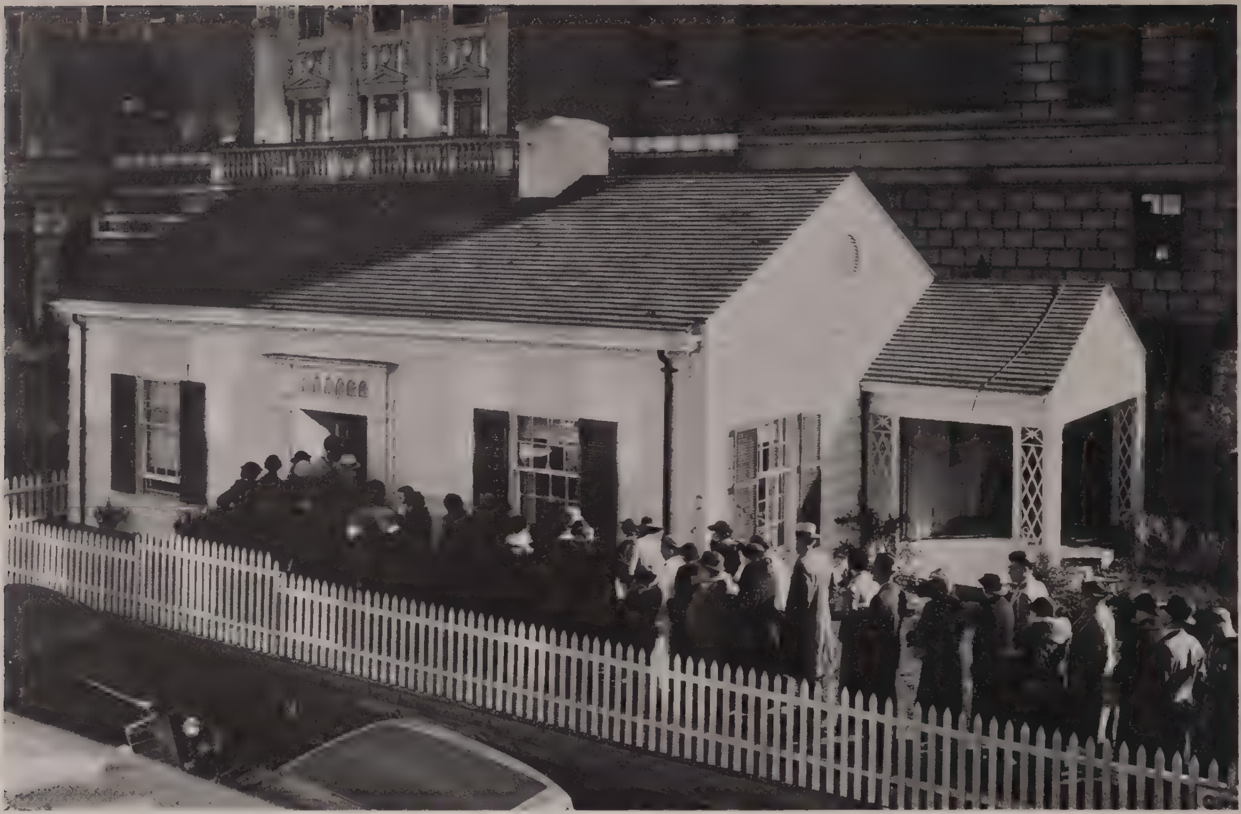
Hotel Hershey, a recent addition to the model community near Harrisburg, Pa., built by the chocolate manufacturer. D. Paul Witmer, architect

The new Post Office and Court House in Pittsburgh, recently dedicated. Trowbridge & Livingston, architects, in collaboration with the Supervising Architect's Office



An aerial photograph of the Mellon Institute, the exterior of which is now finished. The building will be occupied late in 1935. Janssen & Cocken, architects

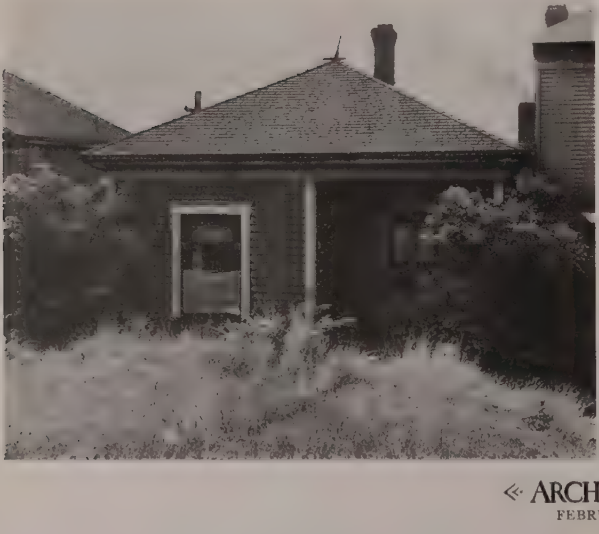


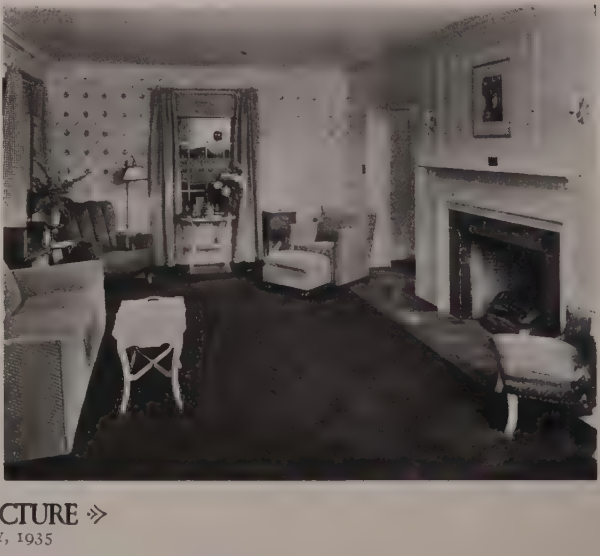


Seattle's Demonstration Bungalow

The Washington Chapter, A. I. A., with the aid of the Seattle Trust Co. and the local building industry, has been showing the people of the community what could be done with a house built in 1899. In a competition, George W. Groves, architect, was given the alteration job. Hundreds of visitors troop through the place daily.

Below are shown, at left, the 1899 shack as it was; at right, the living-room of the rehabilitated structure





Better Practice

By W. F. Bartels

STEEL AND MISCELLANEOUS IRON

1—STEEL

WHILE there is one thing true of practically all the building trades, it is especially true of steel work—changes are *very* expensive. Therefore it is essential that as few changes as possible be made. The steel contractor cannot be expected to cut and drill holes for other trades that are not specified or shown on the working drawings. Hence it is necessary for the architect to be fully aware of the requirements of other trades before finally approving all details of the shop drawings. The steel of course must conform to the standards set by the American Society for Testing Materials, but the architect may well hesitate in trying to improve upon what is recognized by well-known authorities as perfectly safe and satisfactory.

Another important point for the architect to decide is which parts of the steel framework are to be rivetted and which are not. It should be borne in mind that the work must be so laid out that a riveting gang can be given steady work; otherwise the cost of riveting will run entirely too high. The drawings should specifically point out those sections which are to be riveted and those which are not.

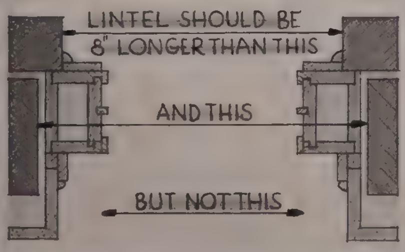
There is what might be termed the small steel work—lintels and anchors—which the steel contractor usually supplies but in most cases does not set. He will deliver these on the job, but the bricklayer or stone mason will set them unless they are of such a size that it will take a gang of men or a derrick to swing them into place. The lintels and anchors should be painted with a shop and a field coat before they are put in place. In specifying lintels care must be taken to see that their over-all width is sufficient to insure a good bearing on the masonry. Too often they are called for about eight inches longer than the window opening, which will give them little or no bearing margin on the masonry when it is considered that they must extend over the window box also (Fig. 1A). The architect will do well, also, if he includes in his description of the lintels their sections as well as their proper lengths. Too often a lintel of smaller section is used to the advantage of the contractor but to the detriment of the building. The number, weight, length and size of the anchors are details in an item that is also well worth setting forth if there are important members to hold.

In the rush to get the steel designed, very often the other trades are overlooked or forgotten. Particularly is this true of the plumbing. Both soil and vent lines should not be expected to be bent around the steel work (Fig. 1B). To provide offsets in plumbing work is rather expensive. Rather than attempt to offset lines, provision should be made in the framing so that lines can be run straight and in separate shafts if need be. Apropos of shafts, it might not be amiss at this point to mention elevator shafts. Obviously these must be plumb. Usually the steel contractor is asked to guarantee the plumbness within a certain measure of tolerance, so that when the elevator guides are set there will be no special material needed to bring the rails out to a true line. Too often, architects' drawings have too many sets of dimensions, all of them so complicated that mistakes are easily made. All shaft dimensions should be very clear.

It is not to be expected that every piece of steel will come on the job in perfect condition and true to the exact size called for. Some one has advocated that where a wooden maul could not be used to drive the drift pin through the hole, such holes should be reamed. This would seem to be carrying the idea too far and beyond the realm of practicability. However, the contractor should be admonished by the architect in the specifications that no drifting will be tolerated where it in any way deforms the hole. On all large jobs the columns should have milled ends. The latter increase the price, and on smaller jobs are not used, but they are a nicety well worth employing. These ends of columns should receive a coat of linseed oil instead of the usual coat of red lead. The setting of the lugs on the columns should not be more than one quarter of an inch too high, so that too many filler plates will not have to be used; the use of too many fillers is undesirable (Fig. 1C). Then, too, care must be taken to see that the lugs are not so large that they protrude through the finished plaster work to the disfigurement of an otherwise attractive room (Fig. 1C).

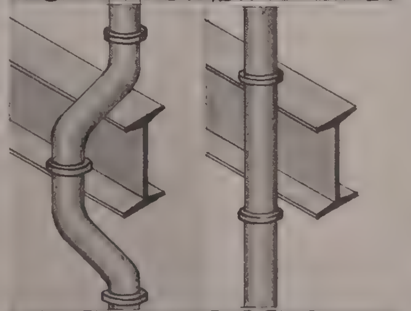
It is customary in most fireproof buildings to establish what is known as a "four-foot mark." This is an arbitrary height established above the beams so that measurements may be run from it. It is absolutely essential that this mark be correct, and to this end the architect should call upon some one of responsibility

1-A STEEL LINTELS



BEARING OF LINTEL SHOULD BE 4" ON SIDES OF MASONRY OPENING

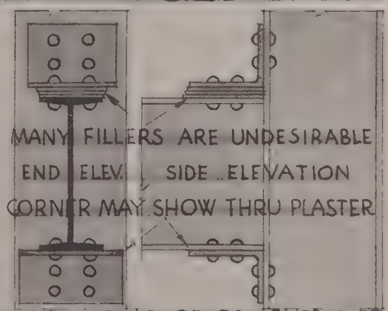
1-B PLUMBING LINES



NOT THIS BUT THIS

PLAN TO AVOID PLUMBING OFFSETS

1-C SIZE OF LUG



LUGS SHOULD BE DESIGNED NOT TO PROJECT BEYOND THE BEAM to establish it. The one designated is usually the general contractor or his superintendent, and if this is the case he should be made solely responsible for its accuracy. I had occasion at one time to be supervising a building which was under the immediate charge of an "old-timer." The superintendent, with his assistant, was conscientiously ticking off the four-foot marks on all exterior columns, not only from the established beam levels but was going to the extra trouble of checking floor-to-floor heights. This was indeed a lot of extra work, and I for a time debated whether or not it was worth while. I was later convinced beyond a doubt that it was, after seeing it done in a lackadaisical manner. On a large building I saw a superintendent of the cock-sure type "checking the steel," or rather establishing the four-foot marks. This was done from a point inside the building corresponding to the curb level. From this bench mark the tape was stretched upwards and a four-foot mark put on each floor. Some time later I was staring at the floor fill, wondering why it seemed to be getting thicker the last few floors. Just then the fill contractor came up and asked me if I didn't think he was entitled to an extra. He explained that each of the last few floors had taken at least three inches more fill than he had agreed to furnish. Upon investigation I found this to be so, due to the fact that (1) the steel had run a very small fraction of an inch short, (2) as is usual in a tall building, it had settled somewhat, and (3) the engineers had "favored" the tape somewhat. These combined factors had led to the "four-foot" mark being in reality a "four-foot, three-inch" mark. From that time on I never questioned the more tedious but more precise way of checking this guide to the trades.

Before passing to the erection of steel, a word might be said of welding. Many architects feel at the present time that welding is a little too untried. While this is not entirely so, it unfortunately is a fact that at the present time a welded job is only as good as the welder, and too much depends upon the mechanic who is doing the job. However, new improvements are being made every day, and it is hoped that in the near future it will be possible to use welding more extensively and confidently.

2—STEEL ERECTION

While at first glance it might appear that the architect is not intimately interested in the erection of the steel, it must be remembered that the specification is the sole guide and authority of the superintendent on the job, and therefore it should cover all phases of the work. This will include calling the contractor's attention to the necessity of taking care of temporary loads, as well as seeing to it that the steel work is entirely safe during its construction. By this is meant that it is well braced and bolted, so that it may withstand all strains that are put upon it.

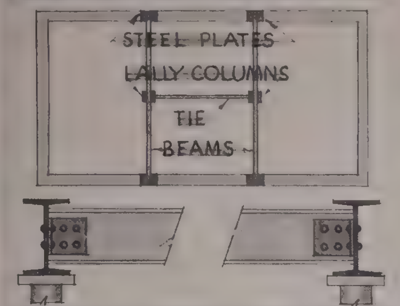
The steel contractor should have it called particularly to his attention that it is entirely his responsibility to see that the billet plates are properly set. Then he should be called upon to make sure that no steel work is riveted until such time as the steel has been plumbed up and checked as to its correctness. The architect would also do well to investigate the latest information as to steel-construction methods and include it in his specification. This information will include allowable differences in column lengths, allowances for columns to be out of plumb, type and kind of rivets and their use, together with much other valuable information.

Steel can play an important rôle in the modern small house—more than is generally supposed. By introducing light beams and other steel sections, the architect is able to give fire-proof, non-shrinking support, which previously was difficult and expensive. Because it is a small job, there will be in all probability be some contractors who might take undue advantage of the architect if there is not the specific injunction against using second-hand material. This practice is unfortunately more general than is supposed. If there is a long span of wooden beams it is advisable to put in steel beams supported by steel sections or Lally columns. These beams must of course be tied in, so that there will be no danger of their turning or going off in one direction (Fig.2-A). This tying is generally done by beams of lighter weight or with channels. Both the beams and the channels should be set on steel plates, and never directly upon the masonry (Fig. 2-B). The ends should be anchored in the masonry wall by rods or by lugs of sufficient size to get a real purchase in the wall. If the steel beam is used to support two short wooden beams instead of a continuous beam, then such beams should lap each other enough so that they may be spiked together (Fig. 2-B). The steel beams should be securely bolted to the column caps and the ties should be secured to the beams by means of well-fastened lugs.

Bridle irons are too often left out of a building which really deserves them. In fact, they should be used whenever one wood beam frames into another (Fig. 2-B). At such points, never should "toe-nailing" be tolerated, as is too often done. Lintels over small windows are another item that should be called for and insisted upon. The bricklayer will neglect to form an arch, and the steel man will "forget" to put in the lintels, with the result that in the not-too-distant future a serious crack may develop. Then, too, separators should be installed wherever it is necessary that the lintel be wide because of the thickness of the wall.

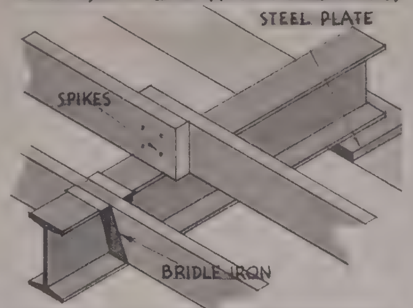
3—PAINT

When steel is to be painted it is well to call for it first to be cleaned of rust and dirt. Then the steel should be given a coat of red lead and pure linseed oil with no driers. In fact nothing besides the two articles mentioned should be used. Subsequently any good paint may be used. Some painters have found that aluminum on top of the red lead gives very satisfactory service. There is another paint, recently put on the market, which, while not as yet well known, may in time rival red lead for a priming coat on steel and iron work. This paint is called sublimed blue lead. However, time alone will tell whether or not this material is a worthy rival of the standard red lead. If the architect plans to take the extra safeguard of "parging" (protecting steel work with a rich cement mortar) the steel columns, then the type of the final coat of paint that he uses may deserve more than passing consideration. Mortar does not adhere very readily to a graphite paint, whereas it does adhere to an asphalt paint. An interesting fact, often unobserved, is that on a steel-construction job the tops of the beams are never painted. This is left undone so that there will be no danger of the men slipping and falling, owing to the wet or slippery paint. And, 2 A TIE BEAMS ToGETHER



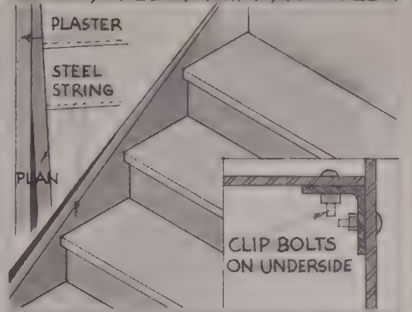
PROVIDE TIES TO PREVENT ANY POSSIBLE LATERAL MOVEMENT

2 B STEEL & WOOD BEAMS



BEAMS SHOULD BE OVERLAPPED AND SPIKED, OR HUNG IN BRIDLE IRONS

4-A STEEL STAIR STRINGER



LEAVE ALLOWANCE IN STAIRWELL TO AVOID UNEVEN LINE & UGLY CRACK

finally, no matter what paints are used, each coat should be of a different color so that the task of the man checking the painting will not be impossible.

4—STAIRS

Stairs should be given especially serious attention by the architect. As a rule the interior stairs are a mere framework, upon which treads are to be placed. Nevertheless, attention should be given to the gauge of the metal. It must be remembered that in being frequently cleaned, there will be dampness remaining all around the edges, which will cause rust. Obviously this is even more true where the stairs are in an exposed position, subject to the weather. The possibility of deterioration causing serious danger is recognized by the Building Department of New York City, which has recently issued a ruling which requires the slats forming the treads of fire-escapes erected under its jurisdiction to be one-quarter inch in thickness, as compared to the three-sixteenths of an inch previously allowed.

Wherever possible, stairs should not be run around an open well-hole, because this is not only a possible danger in itself, but oftentimes a waste of space. The stairs should also be so laid out that when placed against a wall they may be shifted slightly to prevent plaster applied to the wall from covering part of the stringer if the wall is not absolutely true (Fig. 4-A). This overlapping can easily be overcome if there is a small allowance made so that the stair can be moved slightly. When the stairs are completed they should be given a neat appearance by having the construction bolts clipped off close (Fig. 4-A). This cutting will also serve the purpose of keeping the nut from turning. Where iron stairs are to have treads of cement or marble, they should be well protected against the ordinary abuse of stairs in a building under construction (Fig. 4-B). This is especially so where the tread is to be of cement or composition, because if the nosing is damaged here it will continue to be noticeable during the entire life of the stair.

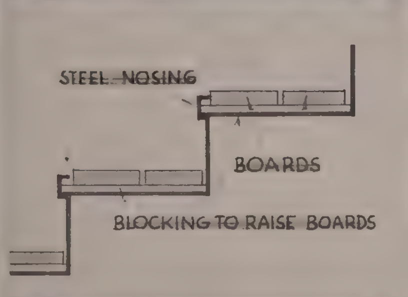
With the drive for the replacement of the old-law vertical fire-escapes in New York City, it may be of interest to examine some of the types legal at the present time. They are indeed a far cry from the vertical ladders people were formerly supposed to descend in case of a conflagration.

Before leaving the subject of stairs, it might not be amiss to check the specification to see that all ladders for tanks, roof scuttles, and other infrequently used places are included.

Window guards and grilles are often overlooked until the bricklayer is ready to build them in, and then they are obtained in such haste that little or no consideration is given to their size or design. Because they are to be used to prevent access through the window they guard, it is always necessary that they be so embedded in the masonry work or made an integral part of the construction that they will not be easily removed.

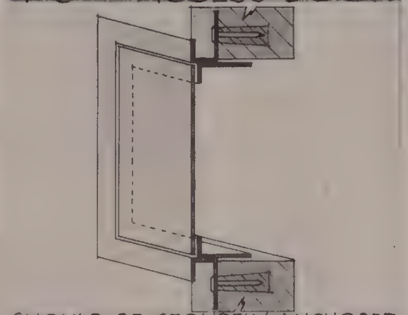
The setting of iron or steel bucks may well be kept under the specification heading of Miscellaneous Iron. So also may fire doors and other large metal doors, such as

4-B PROTECT STAIRS



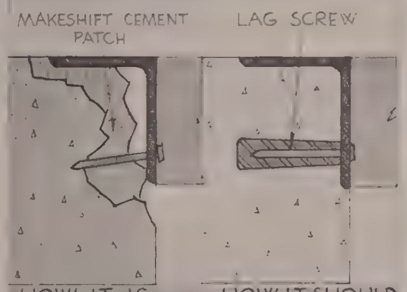
TEMPORARY BOARDS SHOULD BE PLACED TO PROTECT NOSINGS

4-C ACCESS DOOR



SHOULD BE SECURELY ANCHORED & HEAVY ENOUGH TO HOLD SHAPE

4-D SIDEWALK DOOR



HOW IT IS USUALLY DONE — HOW IT SHOULD BE DONE rolling iron doors, heavy garage doors, etc. In the case of the latter the manufacturer generally gives printed instructions in order that there may be no confusion in the setting or hanging of his product. The guides must be properly set and weights balanced in order that his product may work satisfactorily; hence the use of iron workers for this work.

Metal access doors comprise another item that may be furnished as miscellaneous iron work, although in many cases they are set by carpenters. They should be of a gauge which will not buckle. Added to this they should be reinforced so that there will be no danger of their being twisted out of position once they are set in the wall (Fig. 4-C).

Gratings also come under miscellaneous iron. They should be specified as to the depth and width of their members, as well as for the area they are to cover. Too often an architect specifies a grate by a general or trade name, only to be disappointed after he sees it in place. He had thought that a certain size of bar was used to make the grate, whereas the name he specified only represented a general type.

Sidewalk doors are often given but little attention, with the result that they become annoyingly loose when used, as well as dangerous to pedestrians. The frame should be set in a solid framework of concrete, to which the door frames must be securely anchored. Too often they are fastened by lag screws which, when properly used, are satisfactory, but more often are provided with no solid material to hold them (Fig. 4-D).

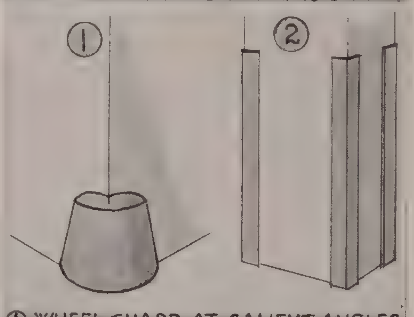
At first glance one might think that wheel guards went out with the horse, but such is far from the case. All classes of automotive vehicles make them more necessary than ever, if the architect and owner are desirous of keeping the corners of entrances intact (Fig. 4-E). Also, protection for interior reinforced concrete columns is indispensable for the interior of a garage. Even hand trucks may do considerable damage, not only to the decorating but perhaps to the structural work itself if not protected. Such protection is afforded generally by angles being attached to the corners and securely anchored in the concrete work (Fig. 4-E). Where there is heavy hand-truck traffic, such as in freight halls, then it may be desirable to install a metal wainscoting. This metal should be of such gauge that it will not be torn or dented; generally 10 gauge is heavy enough.

Coal chutes should be specified, and not left to the discretion of the iron contractor. Faulty ones may too easily prove a source of continuous annoyance. The frame should be one which can be securely anchored, and the lid should be such that it may be fastened securely and cannot be opened from the outside.

5—RAILS; FENCES

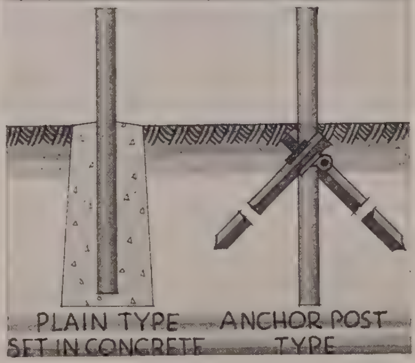
Iron rails are in general attractive but also expensive. The architect can contribute some help by using standard parts in their design, which will keep down the cost. The panels in iron fences should not be too long and, if over four feet, should have a centre support. The main supports or posts should be set in concrete of a good mixture; the depth of the concrete support should be about three feet. There is on the market a very good fence which eliminates the necessity of digging holes for posts. This fence has its posts supported by driving two supporting bars through a patented holder at the ground level, and is very satisfactory (Fig. 4-F). Other concerns have bars and rails of various shapes which give added strength to their fences, and are also highly desirable. When an iron baluster is set into stonework, great care must be taken: the stone should be first warmed and then, after the baluster is inserted, lead is poured around it. If possible the hole should be made in the dove-tail manner, as a dentist drills a cavity, so that the filling will not come out —larger at the bottom than the opening.

4-E PROTECT MASONRY

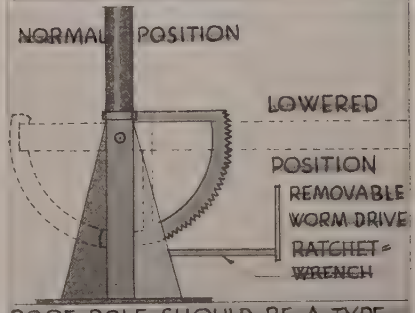


① WHEEL GUARD AT SALIENT ANGLES
② STEEL ANGLES AT COLUMN CORNERS

4-F STEEL FENCE POSTS



5-A STEEL FLAGPOLES

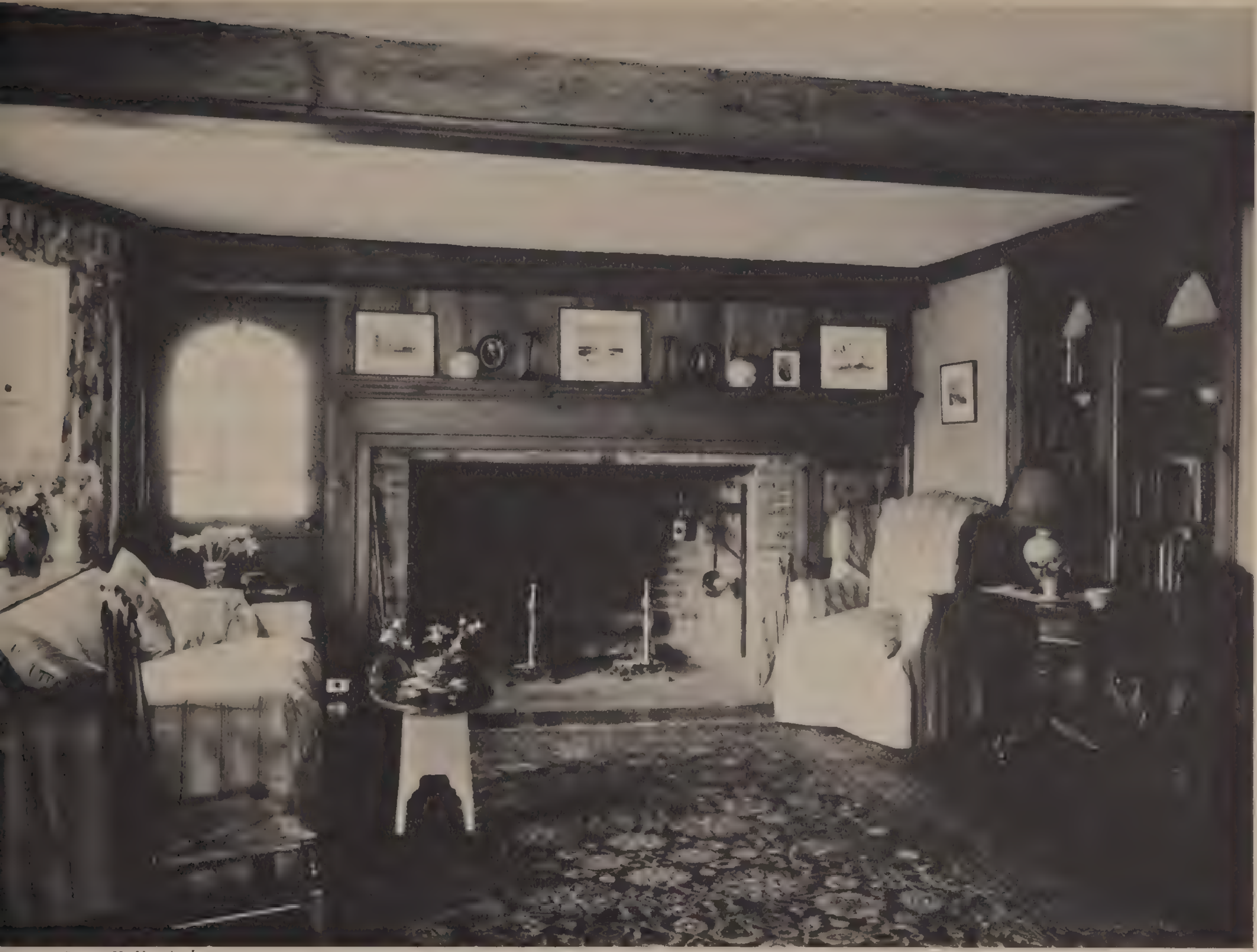


ROOF POLE SHOULD BE A TYPE THAT IS EASILY ACCESSIBLE

A pipe railing is inexpensive, and suitable to many uses, having unusual strength for its size. Where pipe rails are anchored into masonry, it should never be by means of screws in wooden plugs. They will soon rot and the fence will be easily pushed out of position. Lag screws should always be put in the metal shield which comes for this purpose, and if properly installed will last as long as the fence.

The wire mesh that may be used between fence supports is also an important item, because the cost of it will probably be as much as the balance of the fence. The thickness of the wire making up the netting should be specified, and note made whether or not it is to be galvanized. Most of the fencing on the market today is galvanized, as this is a great rust preventive. It might be noted here that wire gauges are different from metal gauges, and must not be confused with the latter.

Flag-poles on the top of a building are often among the last items to get any consideration. If made rigid, when there is need to paint them or the halyards become twisted, it means getting a steeple-jack. It is more sensible to provide poles which can be raised or lowered by any of the building employees (Fig. 5-A), and be kept in good condition without the necessity of employing a specialist.



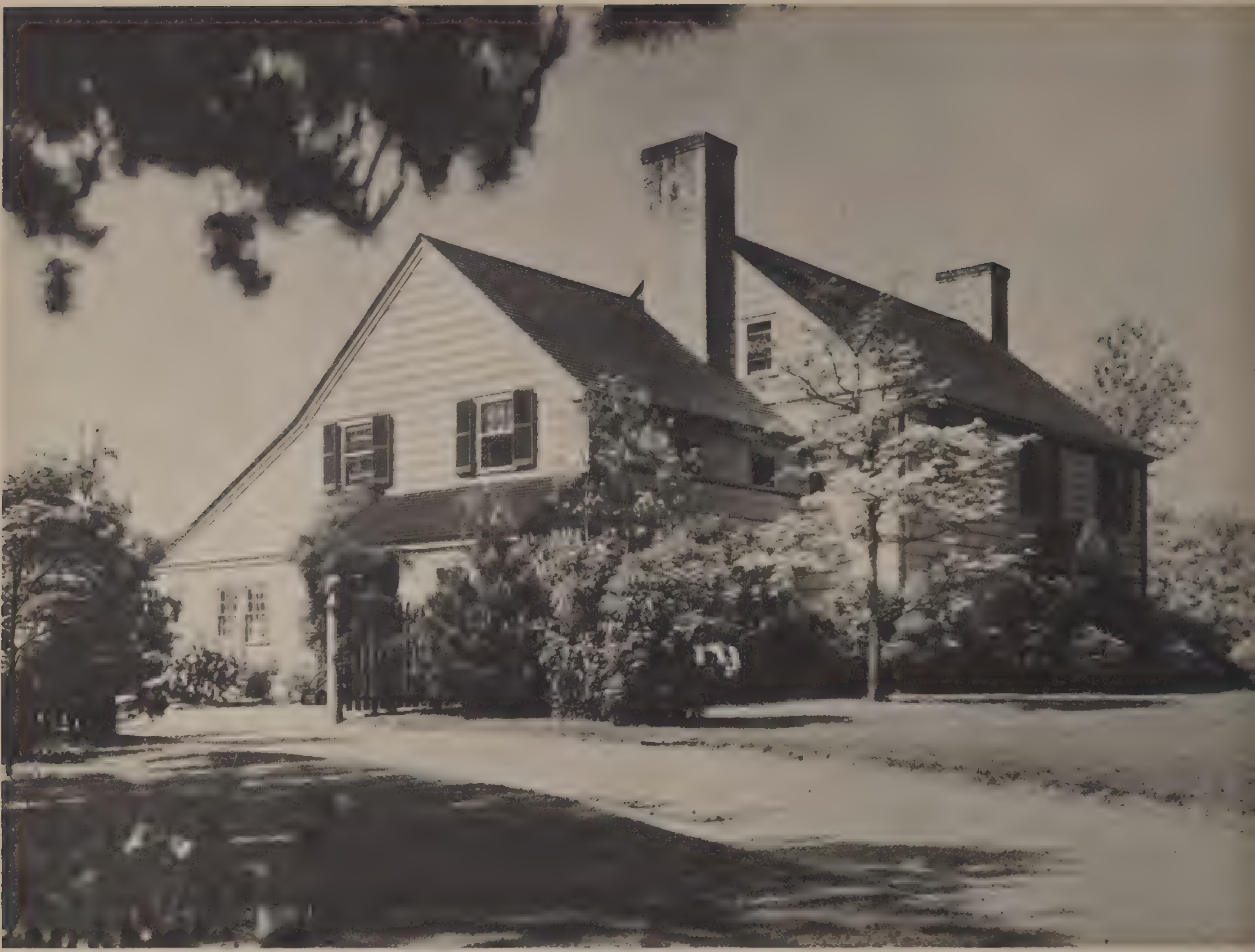
George H. VanAnda

Fireplace end in the living-room of the house for Harold S. Willis, Great Neck, N. Y., of which the plans and exterior photographs are shown on the following two pages

Six Small Houses

DESIGNED BY

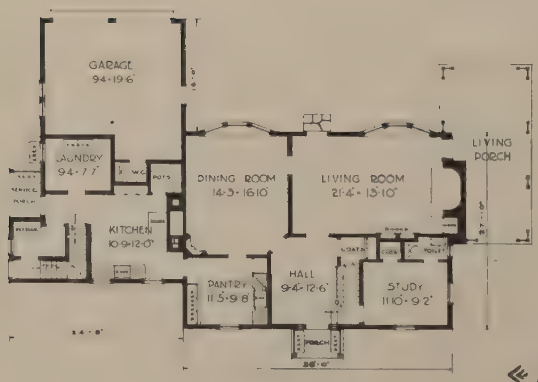
Roger H. Bullard, Architect

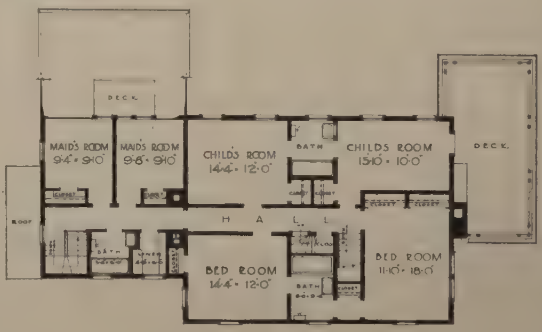


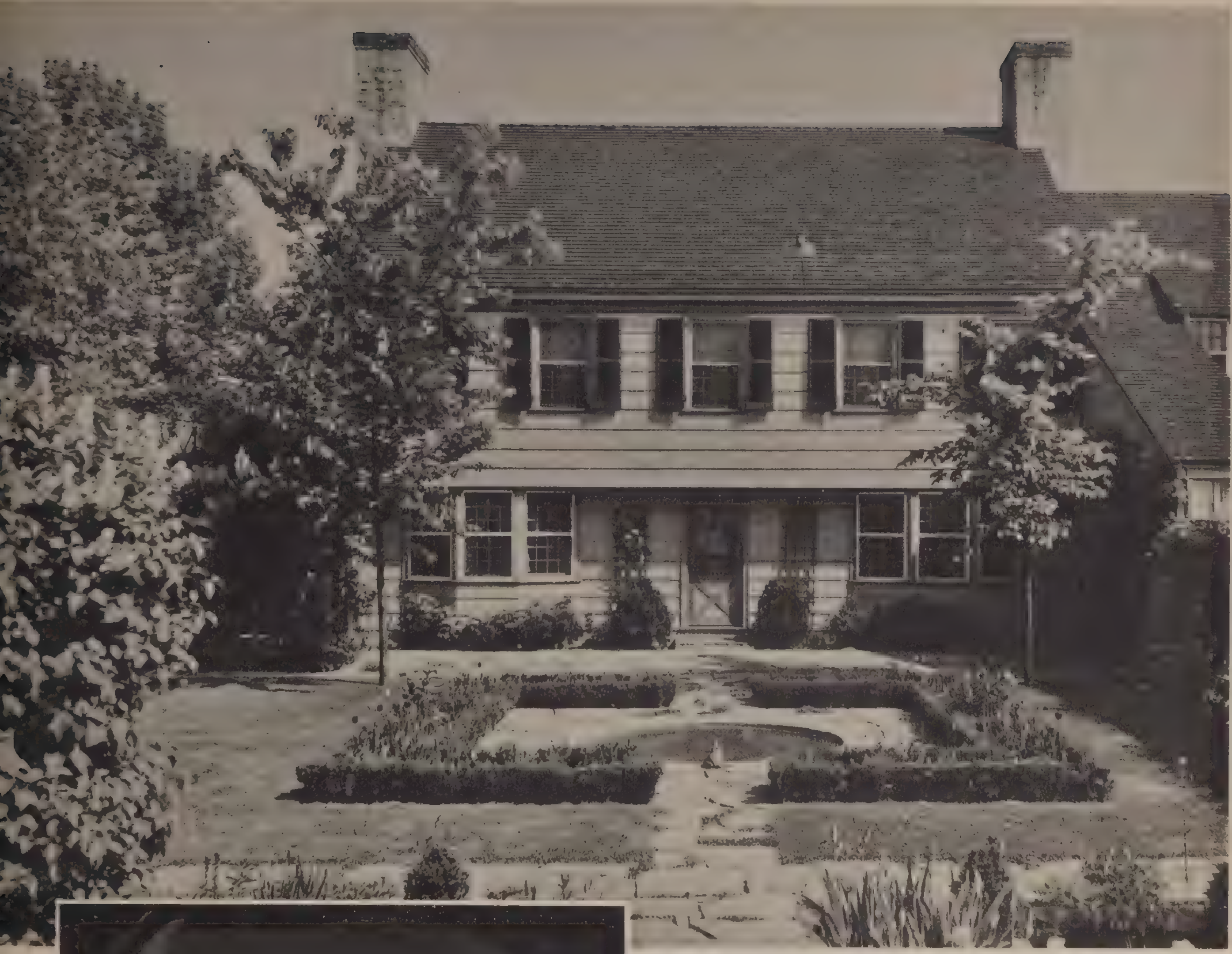
The house has a two-story main portion with an attic, to which is attached a two-story wing without an attic. Here are ten rooms, including a laundry on the first floor, and an attached garage with space for two cars. On the walls are shingles painted gray

House of Harold S. Willis, Great Neck, N. Y.

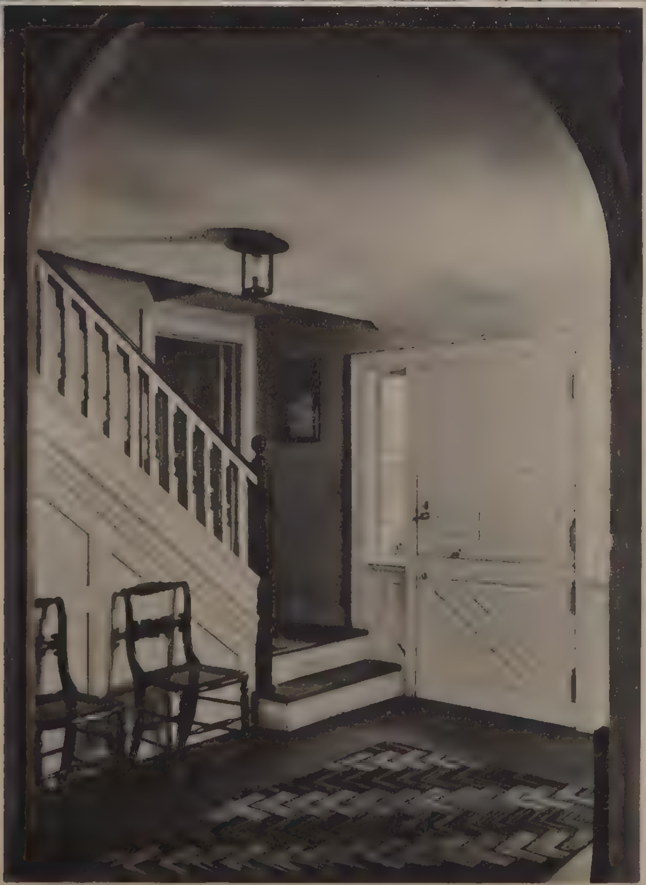
Below are the plans of the first and second floors. An attic stairway provides for two bedrooms and a bath above, when future expansion is desirable





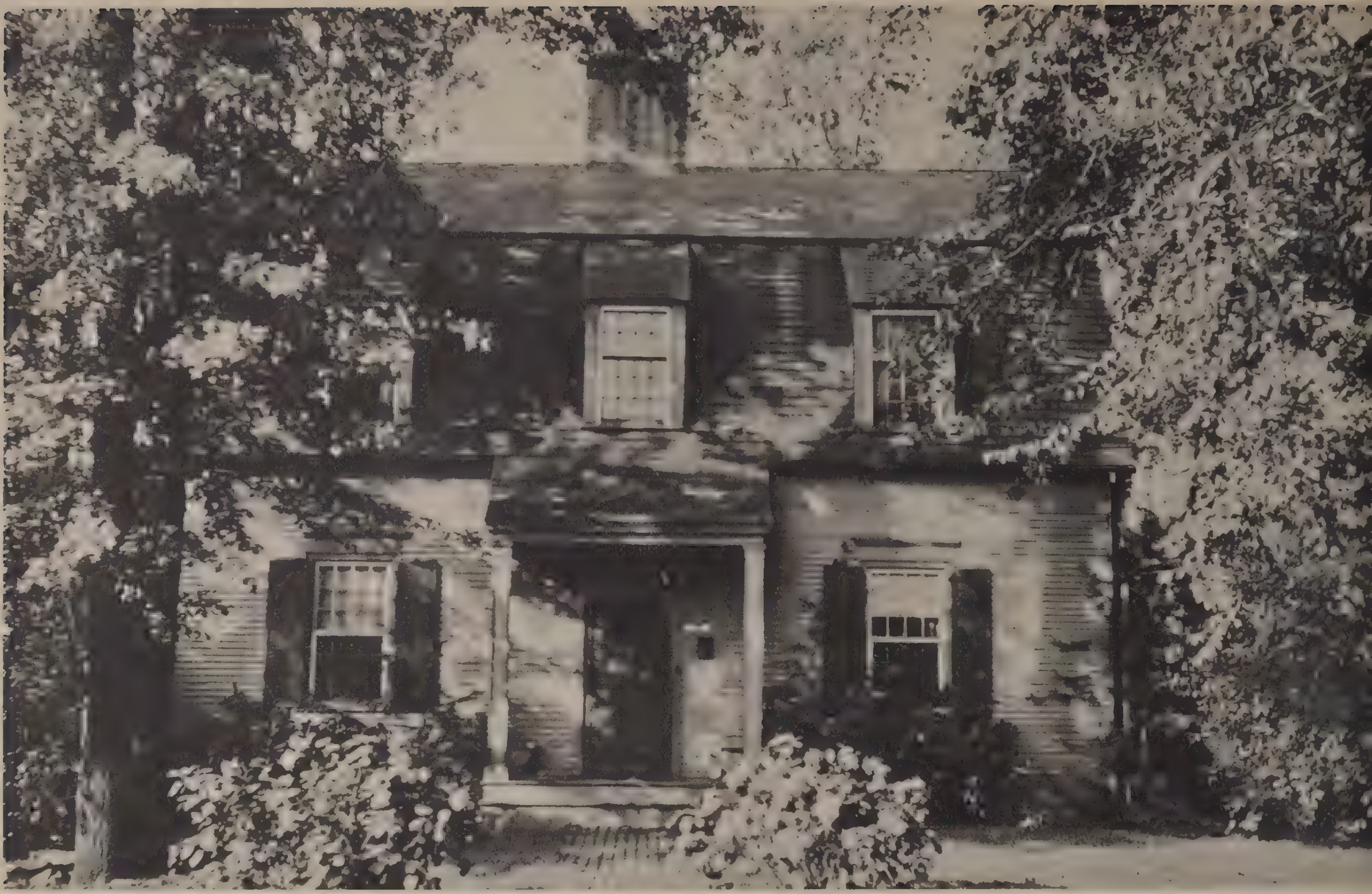


The garden side of the Harold S. Willis house, on which Mr. Bullard has utilized the bay windows in the living-room and dining-room as supporting members for the overhang of the second story



George H. VanAnda

The front door and staircase as seen through the archway between the hall and dining-room

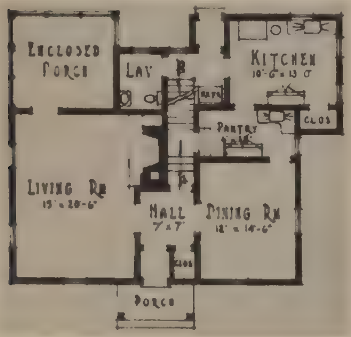


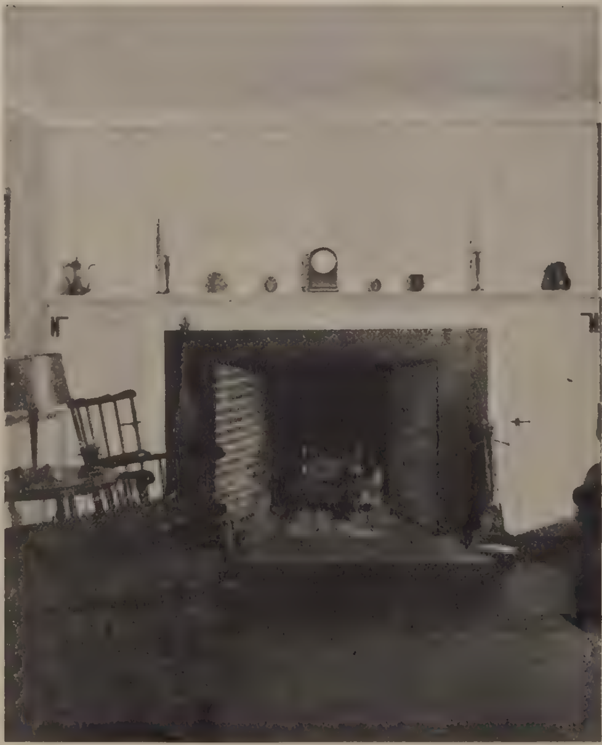
An example of the story-and-a-half house with central chimney and a gamble roof. Walls are of narrow siding, painted white

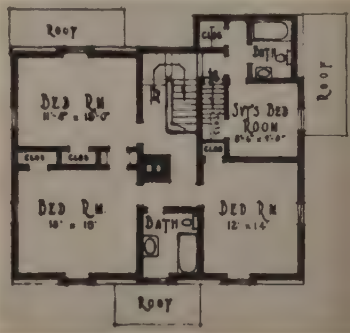
There is an unusual feature in the outside shutter door which has on its inside a screen mesh

There is, possibly, considerable saving in the small house work by running the stairway up between plastered walls without the necessity for ballusters and the usual expensive woodwork on the stair ends

The slight sinkage of the fireplace corner in the living-room gives an excellent opportunity for differentiating this wall by panelling

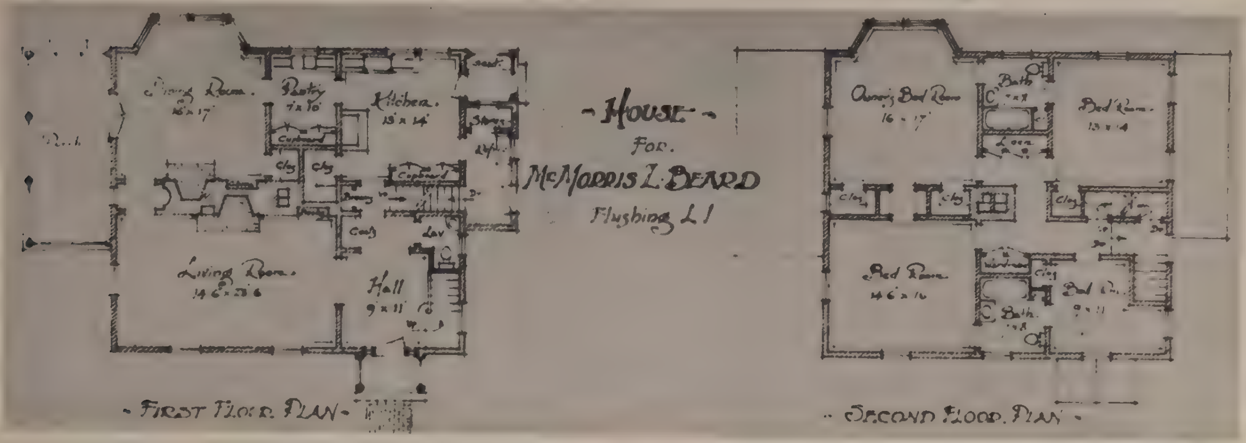


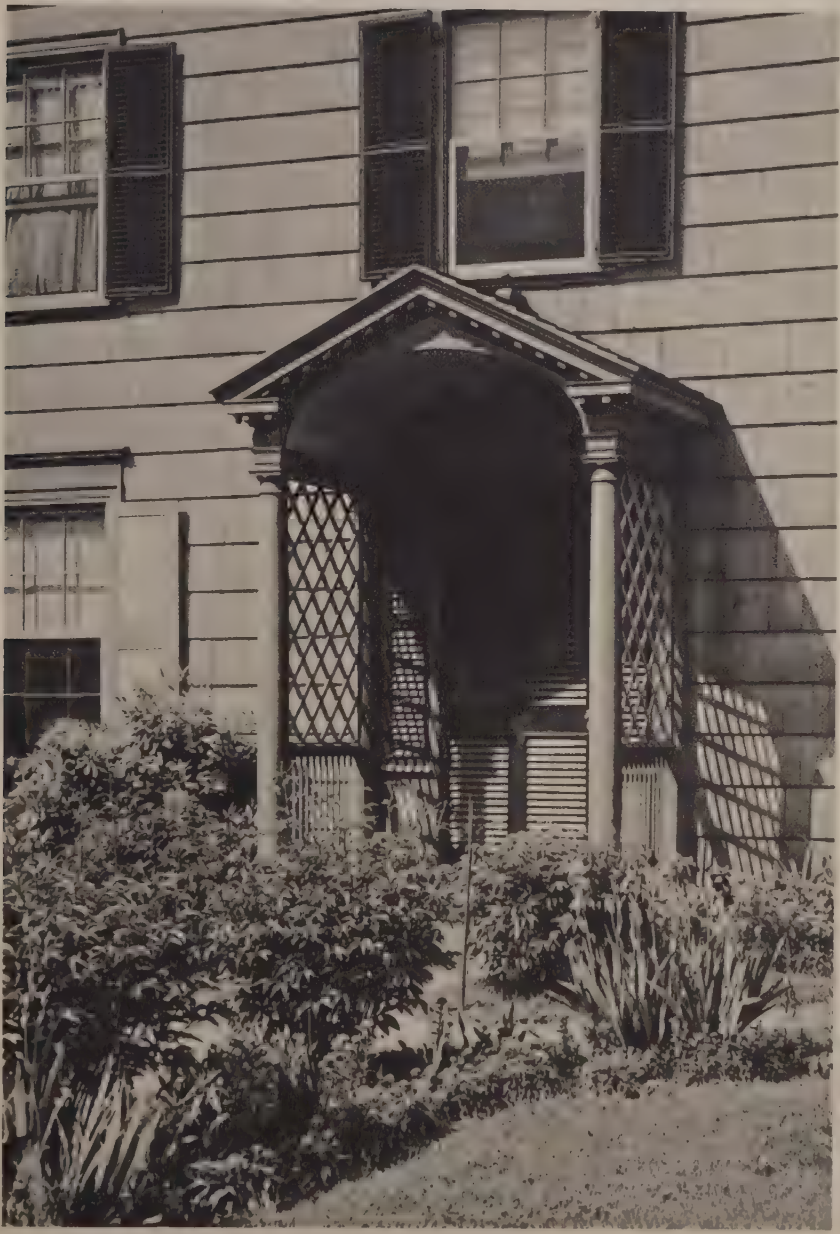




House of Arthur L. Willis, Flushing, N. Y.

House of Morris L. Beard, Flushing, N. Y.





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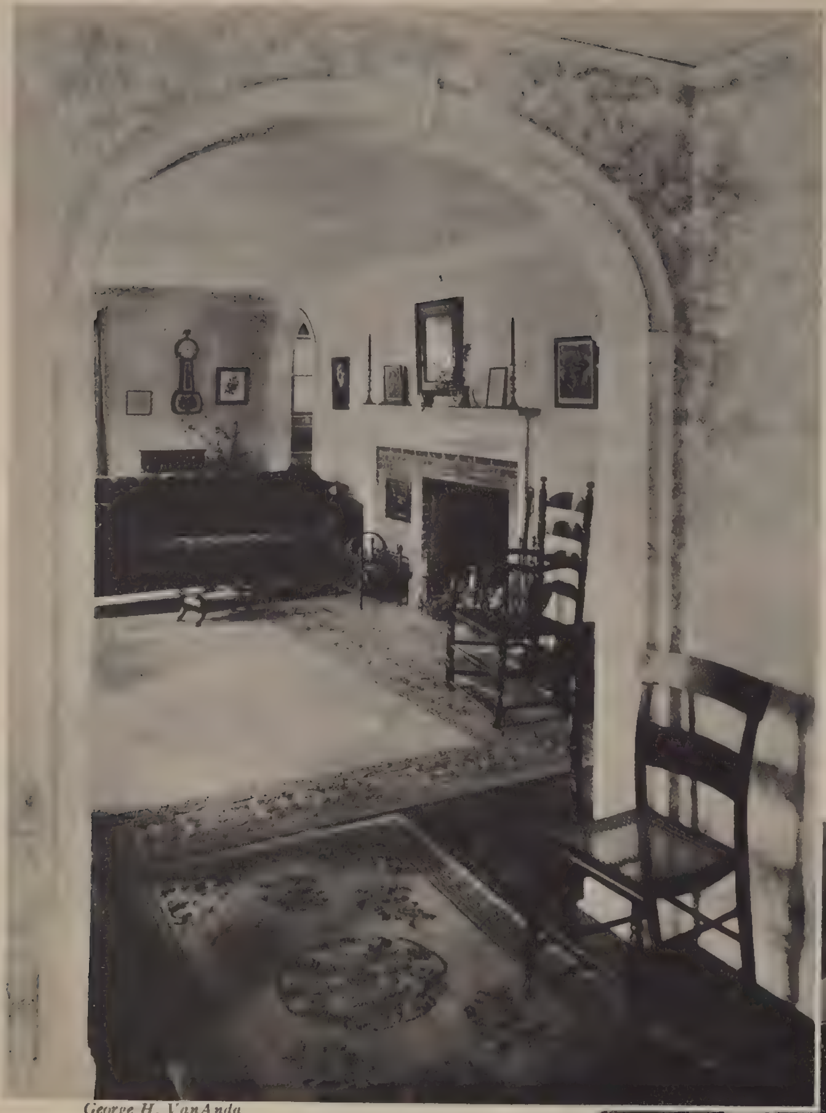
A compact plan giving nine rooms in the full two stories and attic, in addition to a laundry in the cellar. The large living-room is achieved by putting the stairway at the north end, and abandoning the axial entrance

It will be noticed that the bearing walls carry up through first and second floors. Each of the four bedrooms is given a corner exposure with cross draft



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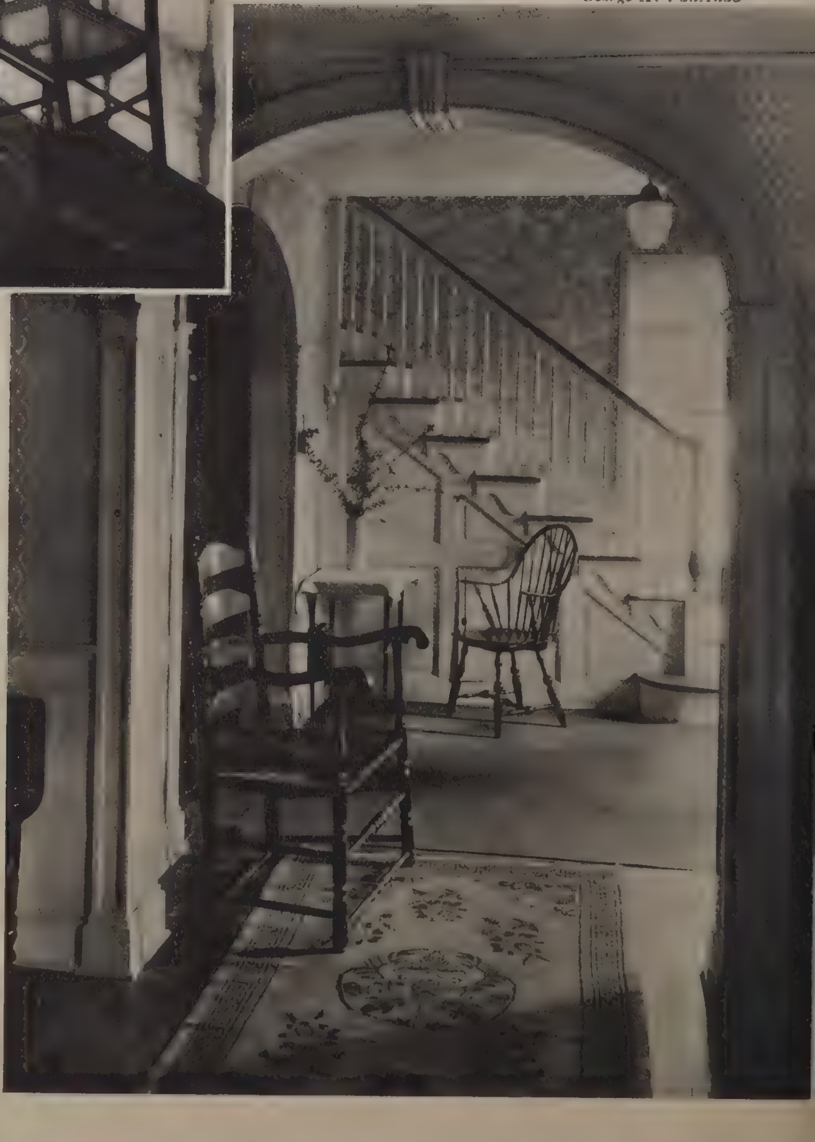
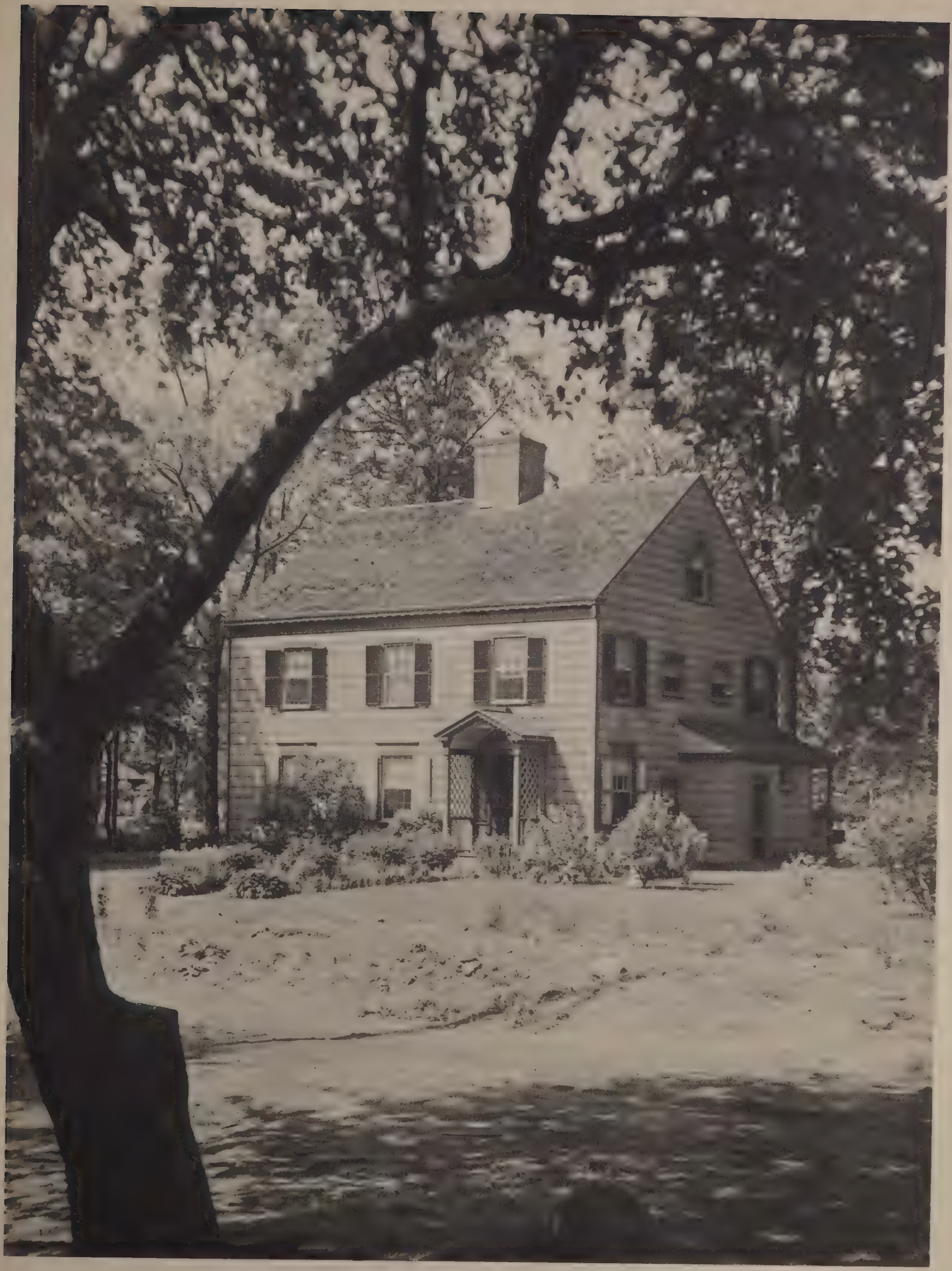
The living-room as viewed through the archway from the entrance hall. While the living-room is of generous size for a small house, its spaciousness is increased by this wide opening into the hall beyond

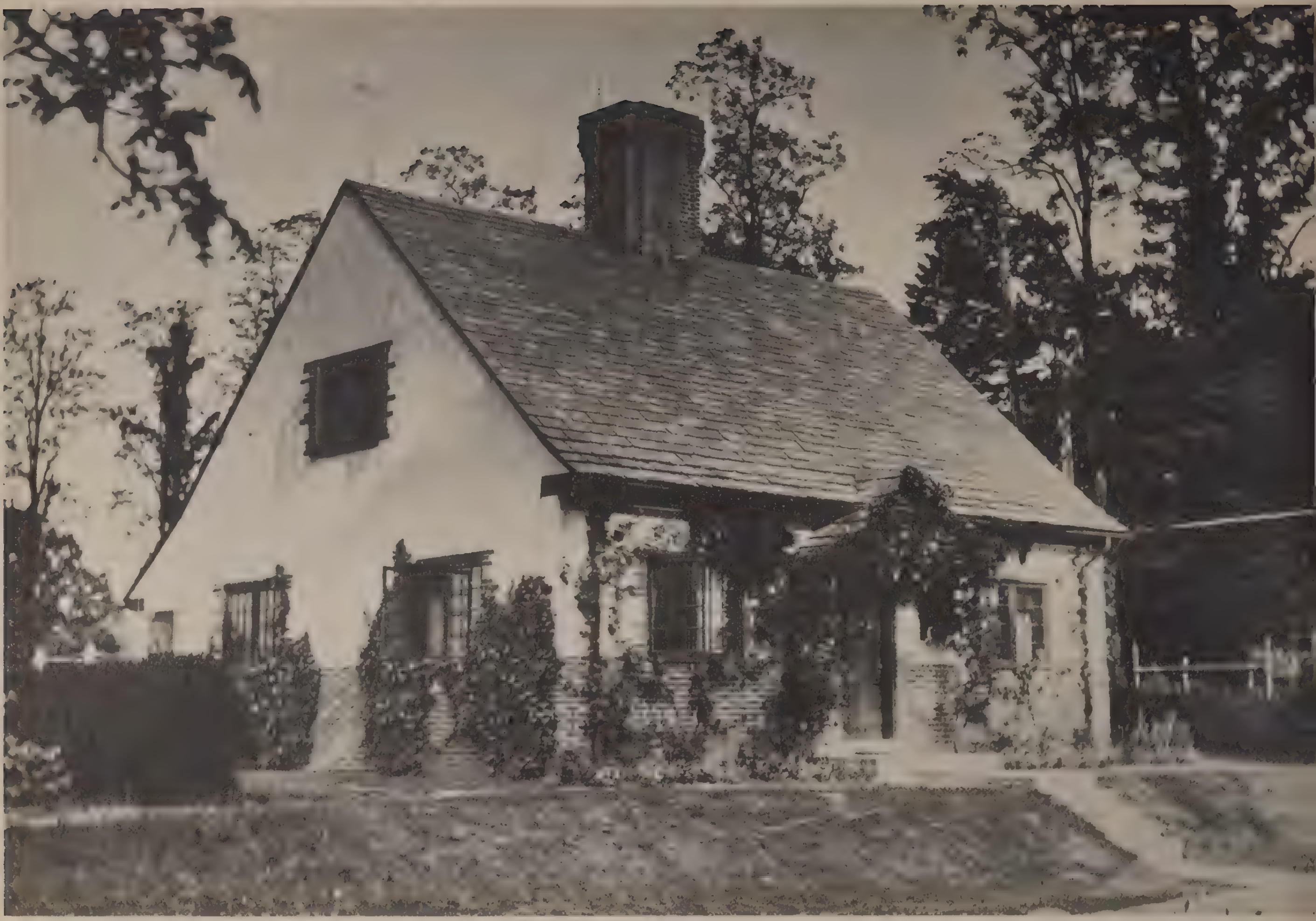


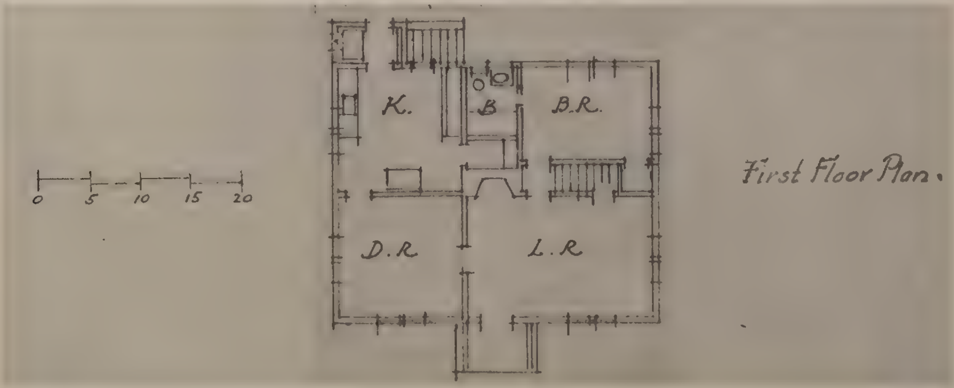
George H. VanAnda

From the living-room, looking across the hallway at the north end of the house. The archway between hall and living-room is repeated at the rear end of the hall, partly screening the coat closet and entrance to the lavatory under the stairs



Considering the advantages often to be gained by having the main entrance at a corner of the building instead of in its centre, it is surprising that this expedient is not more frequently adopted

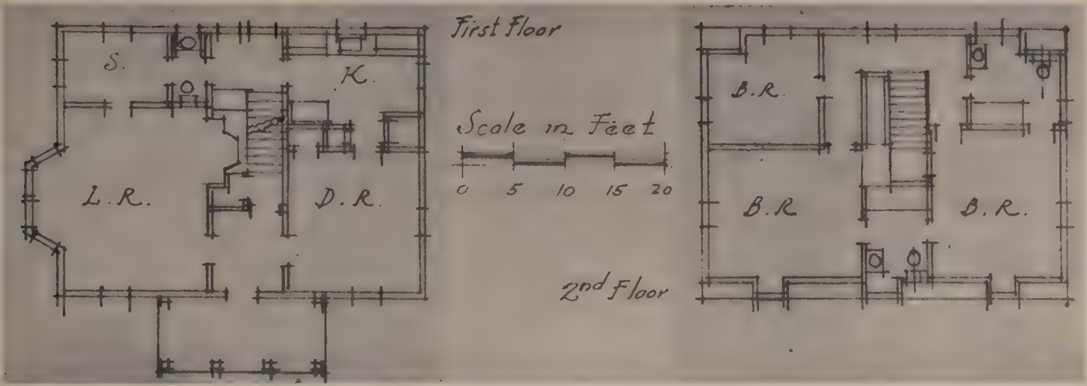




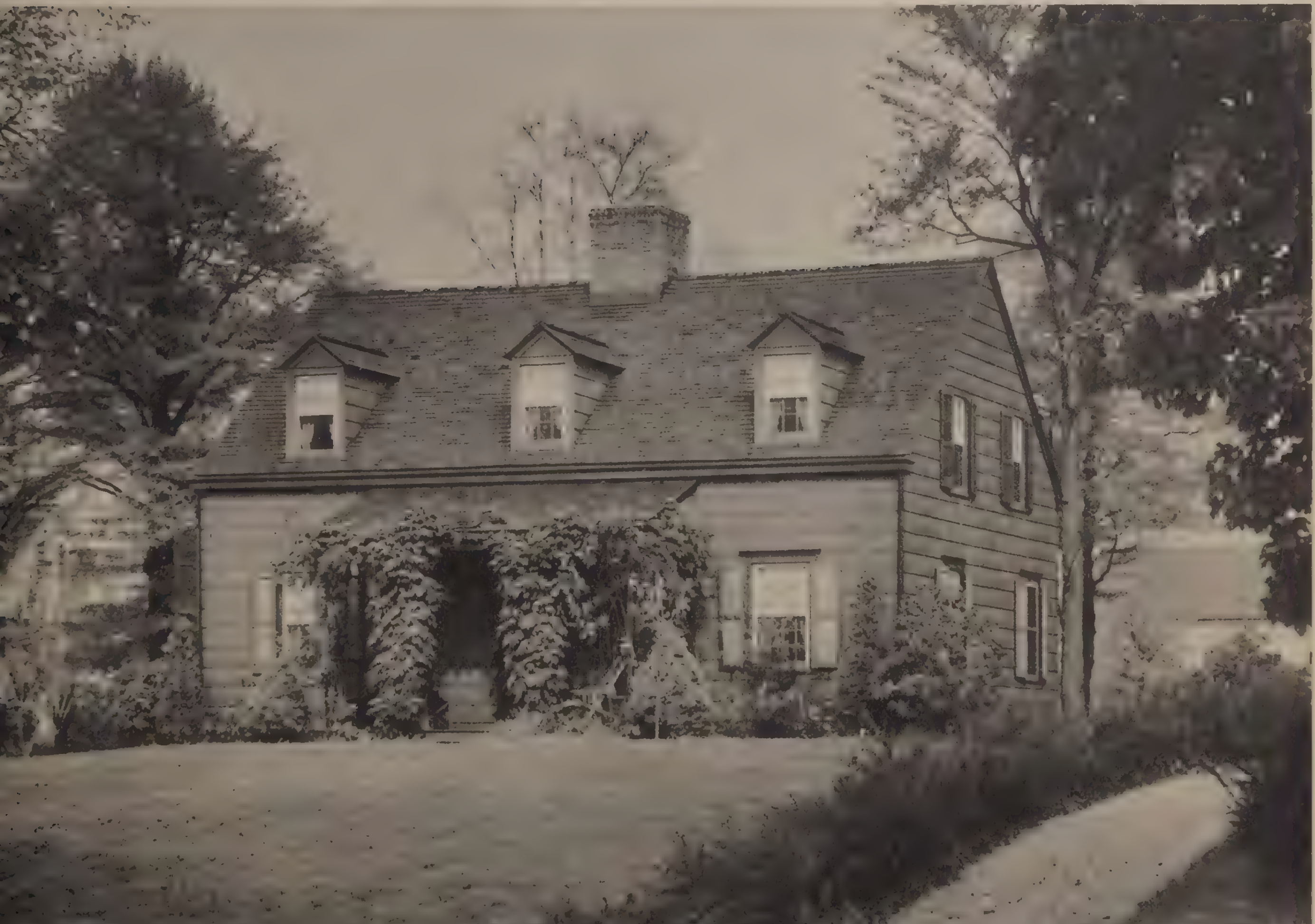
An example of the nearly square type of plan, with one story and a half, as carried out in stucco and brick, again with a central chimney. The plan provides a bedroom and bath on the first floor with room for further expansion in the attic

House of Paul G. Pennoyer, Locust Valley, N. Y.

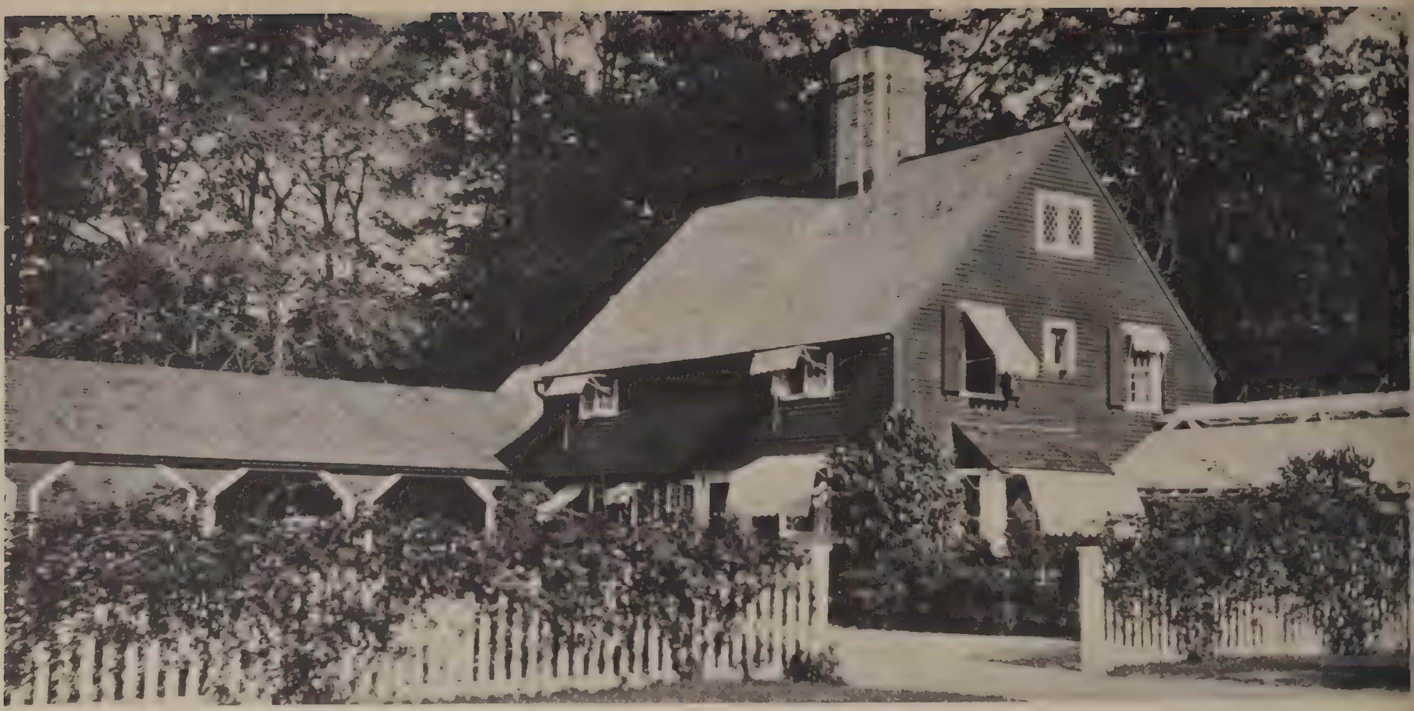
House of Albert R. Crone, Phillipse Manor, N. Y.

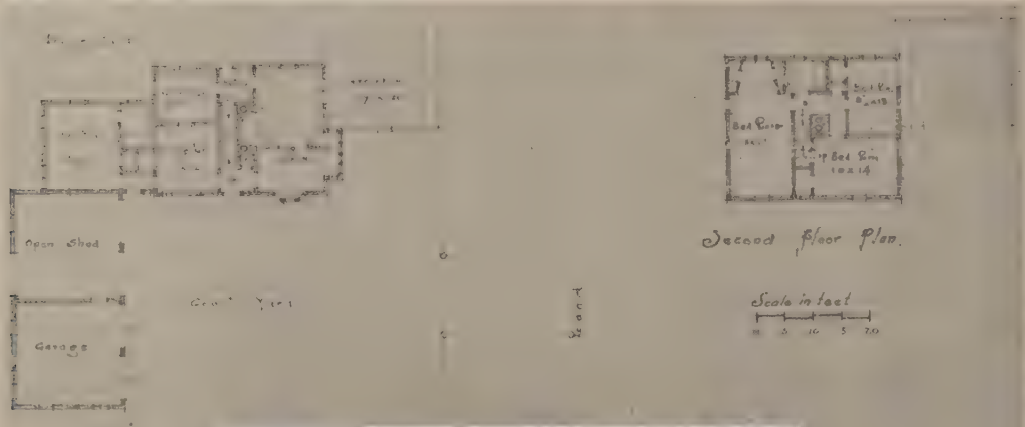


Another example of the central chimney type, with a story and a half, and a simple gable roof. Here again the stairway ascends between the walls as a measure of simplification. Walls are of shingles painted in two shades of gray



George H. VanAnda





House of Mrs. Sarah T. Richmond Glen Head N. Y.

While the house itself is small, it occupies more than the usual amount of land, with its greenhouse off the living-room, an open shed, and a garage, all under a continuous roof, forming an L about the fenced courtyard. Color of walls is the old New England barn red

Rental Differentials in Low-Cost Housing

A TABLE OF PLAN COMPARISONS ILLUSTRATING A RAPID METHOD OF ASCERTAINING THE EFFECT OF PLAN CHANGES IN TERMS OF RENTAL

By Albert Mayer

The so-called "Table of Plan Comparisons" now being extensively used by designers and supervising agencies of low-cost housing—among these the New York City Housing Authority—was devised as a necessary aid to housing design. It supplies a rapid method of evaluating the difference in various plans, in terms of rental per room per month. Charles Haines and I, of the Housing Study Guild, worked out the method in connection with that organization's study and report on what is known as the Queensbridge Project, a tract of some thirty-five acres in New York City. The method can be applied anywhere and to any type of building, but the framework for actual cost figures must be worked out for each locality, in accordance with the local wage scale, material prices, and other variables.

To work out the table for the first time for any locality is a sizable job, but thereafter it can be applied to plans indefinitely, with great rapidity and satisfactory accuracy. As the method is new, a detailed explanation seems desirable in this article. But those who have adopted it agree that the method is easy of application.

In any housing project a large number of sketch plans will inevitably be made. Each has certain advantages and certain disadvantages of plan and operation as compared with others. In the project mentioned there were fifteen subjected to comparison by our table.

In low-cost housing it is important to know the extra rental caused by retaining a certain room arrangement as against some other less convenient one, or the difference caused by varying room sizes, or various plumbing arrangements. One man says, "Let's have larger rooms, because there is practically no difference in cost—you're only adding more enclosed air." Another argues, "In low-cost housing you must use minimum room sizes, because even if diminished sizes don't lower cost and rent proportionately, you have to make the substantial economies resulting from less walls and partitions, less heating, etc."

Such arguments go on in every office, and hitherto no one has known how to get the answer quantitatively except by the tedious method of making complete estimates for every different sketch—which no one does. And the quantitative answer is the important thing, because if it costs only 5 cents extra in monthly room rental to retain an advantageous feature, you will probably do it; if it costs 40 cents per room per month, you may have to discard it. By looking at plans you can't tell whether the difference will be 5 cents or 40 cents; nor will you get complete estimates on each sketch.

The method to be described will permit rapid evaluations in terms of rental. An advantage of finding the differential immediately in terms of rental is that it takes account of both first cost and operation-maintenance. The usual estimate takes in first cost only, though the effect of operation and maintenance costs is sometimes more important.

In the design of the typical floor plan for low-cost housing, there are two chief problems: 1—The adoption of certain standards, which will meet the requirements of the people to be housed. 2—The arrangement of these standards in space.

Our method of plan analysis depends essentially on selecting the factors that vary appreciably as between plans, to find the *differences*. Some factors are substantially constant no matter what the plan. Such factors are: electric wiring and fixtures, plumbing fixtures, refrigerator, range, sash, glazing, etc. The variables which cause appreciable differences are ten in number, referred to below as "criteria." All items of first cost and operation-maintenance affecting these variables are allocated. The table covers only building factors; the effects of land cost and coverage are not considered, as there are separate tables available for this.

This article is necessarily a résumé of the complete study as published by The Housing Study Guild (101 Park Avenue, New York City). It is suggested that any one purposing to use this method for his own problems obtain the complete study, for a good tool may be misapplied unless one is thoroughly aware of its exact sphere of application. Such tables as these are of the greatest value when properly used, but give misleading results when used to cover purposes for which they were not intended.

The room is assumed as the basis in this study, as this is the customary rental basis. The rent differential might just as easily be calculated on the basis of the person housed, or the apartment.

DEFINITIONS

1. *Room.* Includes all living-rooms, sleeping-rooms and kitchens.
2. *Kitchen.* Any room completely equipped for cooking, that is not less than 4′ 6″ in its lesser dimension and that has its own window and door.

CRITERIA

The following are plan variables. They are calculated by determining the average number of units of each per room:

1. Gross area (sq. ft.) per room.
2. Exterior wall (lin. ft.) per room.
3. Partition (lin. ft.) per room.
4. Doors, number per room.
5. Closets, number per room.
6. Wardrobes, number per room.
7. Stair (fraction per floor per room).
8. Incinerator (fraction per floor per room).
9. Elevator (fraction per floor per room).
10. Plumbing, per room.

Both first cost and operation-maintenance cost are calculated for each of these criteria. First cost is reduced to rental per room by multiplying first cost by a percentage which is the total of interest rate,

PLAN NUMBER →		1		2		3		4		5		5A		5B	
CHARACTERISTICS															
AV NET RM SIZE LR-K-CH		116 SQ FT		116 SQ FT		123 SQ FT		122 SQ FT		111.6 SQ FT		132.3 SQ FT		130.3 SQ FT	
LIVING ROOM APPROX		12' 6" X 13' 6"		12' 6" X 13' 6"		12' 6" X 14' 6"		12' 6" X 16' 0"		12' 3" X 13' 4"		12'3" X 15' 10"		13' 4" X 16' 2"	
BEDROOM "		9' 0" X 12' 6"		9' 6" X 12' 6"		9' 6" X 12' 3"		9' 6" X 12' 6"		9' 6" X 12' 7"		9'6" X 12' 7"		9' 6" X 12' 7"	
KITCHEN "		6' 0" X 12' 6"		6' 0" X 13' 0"		5' 6" X 12' 3"		7' 0" X 12' 6"		4' 6" X 12' 7"		7'0" X 12' 7"		4' 6" X 12' 7"	
CROSS-VENTILATION		2/3		ALL		ALL		ALL		ALL		ALL		ALL	
PRIVACY		1/3		0		ALL		1/2		ALL		ALL		ALL	
FOYERS		1/3		1/4		ALL		1/3		0		0		0	
APARTMENT SIZES		5 - 2 - 3		4 - 3 - 3 - 4		3 - 4		3 - 4 - 5		3 - 3		3 - 3		3 - 3	
NO RMS ⅌ STAIR ⅌ FLOOR		10		14		7		12		6		6		6	
NO FLOORS IN BUILDING		4		4		4		4		4		4		4	
	RENTAL EFFECT	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO	CRITERIA	RENT PER RM PER MO
A. FIRST COST															
1. GROSS AREA, SQ. FT.	.00922	173.8	$1.60	166.	$1.53	172.5	$1.59	162.	$1.49	168.8	$1.56	191.5	$1.77	191.3	$1.77
2. EXTERIOR WALL, LIN.FT.	.1125	15.3	1.72	12.9	1.45	12.8	1.44	13.1	1.47	12.4	1.40	14.	1.58	12.4	1.40
3. PARTITION, LIN. FT.	.61	24.5	.60	23.5	.58	25.6	.63	21.8	.53	26.	.64	27.5	.68	28.7	.70
4. DOORS	.18	1.3	.17	1.28	.17	1.28	.17	1.41	.19	2.33	.31	2.33	.31	2.33	.31
5. CLOSETS *															
6. WARDROBES	.11	.7	.11	.64	.10	.57	.09	.73	.12	.6	.10	.6	.10	.6	.10
7. STAIR	.19	.1	.19	.071	.13	.144	.27	.083	.16	.167	.31	.167	.31	.167	.31
8. INCINERATOR	.14	.1	.14	.071	.10	.144	.20	.083	.12	.167	.24	.167	.24	.167	.24
9. ELEVATOR †															
10. PLUMBING ‡			.22		.25		.24		.25		.22		.22		.22
TOTAL			$4.76		$4.31		$4.63		$4.33		$4.78		$5.21		$5.05
B. MAINTENANCE °															
1. GROSS AREA, SQ. FT.	.00173	173.8	.30	166.	.29	172.5	.30	162.	.28	168.8	.29	191.5	.33	191.3	.33
2. EXTERIOR WALL, LIN.FT.	.0525	15.3	.80	12.9	.68	12.8	.67	13.1	.69	12.4	.65	14.	.74	12.4	.65
3. PARTITION, LIN. FT.	.0145	24.5	.36	23.5	.34	25.6	.37	21.8	.32	26.	.38	27.5	.40	28.7	.42
7. STAIR	4.02	.1	.40	.071	.29	.144	.58	.083	.34	.167	.68	.167	.66	.167	.67
8. INCINERATOR	.31	.1	.03	.071	.02	.144	.04	.083	.03	.167	.05	.167	.05	.167	.05
9. ELEVATOR †															
TOTAL			$1.89		$1.62		$1.96		$1.66		$2.04		$2.19		$2.12
GRAND TOTAL, A+B			$6.65		$5.93		$6.59		$5.99		$6.82		$7.40		$7.17

* NO CLOSETS ON THESE PLANS -- WARDROBES ONLY WERE USED

† NONE -- AS THESE ARE FOUR-STORY BUILDINGS

° NUMBERS 4, 5, 6, AND 10 NOT INCLUDED, AS THESE COSTS DO NOT APPRECIABLY AFFECT THE MAINTENANCE-OPERATION

‡ SEE TEXT OF ARTICLE FOR EXPLANATION OF PLUMBING VARIATIONS

TABLE OF COMPARISON FOR SEVEN PLANS AS TO THE RENTAL EFFECT OF VARIABLE FIRST COSTS AND MAINTENANCE COSTS amortization rate, and tax rate. This percentage is called the Rental Factor. For the rates of taxation and finance used in our project, this figure was 0.715 per cent per month; that is, every $10 of first cost means about 7 cents per room per month in rental.* Rental dollars due to first cost appear under "A" of the table on page 98; rental dollars due to operation-maintenance appear under "B."

SETTING UP THE TABLE

1. Establish the unit first cost of each criterion, and the unit maintenance cost. A specific example of doing this, to establish the effect of varying the amount of exterior wall per room, is as follows:

To ascertain Criterion 2 under A in the table, divide the total lineal feet of exterior wall by the number of rooms.

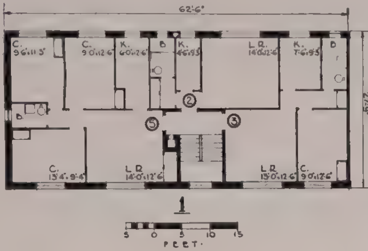
Now take the typical wall section. We find the brick area is 80 per cent; the window area, 20 per cent.

4" face brick	$ .49
8" common brick	.59
Plaster	.09
Decoration	.03
Damp-proofing	.02
Total of brick area per sq. ft.	$1.21

Window frame and sash	$12.50
Glazing	4.00
Caulking	1.50
Hardware	1.50
Weights and cord	1.00
Painting	1.00
Total per window	$21.50

Since the average window size in this particular case, as in several projects of the type, is 4 x 5 ft., the window cost per sq. ft. is $1.08.

Taking the $1.21 times 80 per cent, plus $1.08 times 20 per cent, we get $1.18 per sq. ft. for the exterior walls; or, multiplying by 9 for story height, we get $10.62 as the cost of exterior wall per lineal foot per story. To this we add the cost of our heating plant per lineal foot, $2.78 (1.85 sq. ft × $1.50), to reach a total of $10.62 + $2.78 or $13.40 as the cost of our typical wall section per lineal foot of story height.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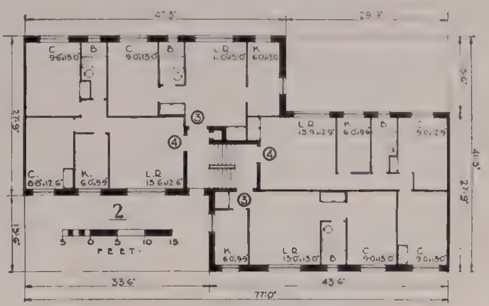
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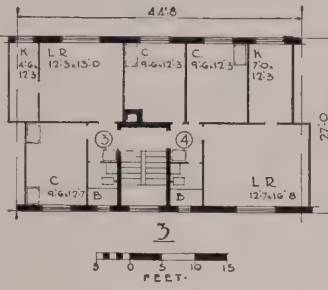
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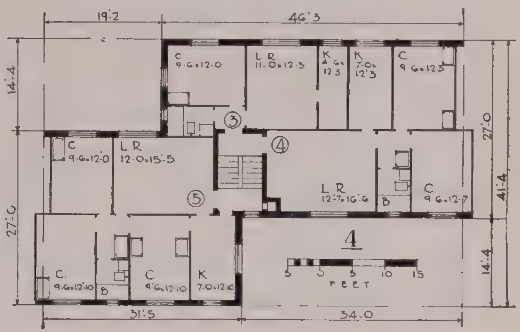
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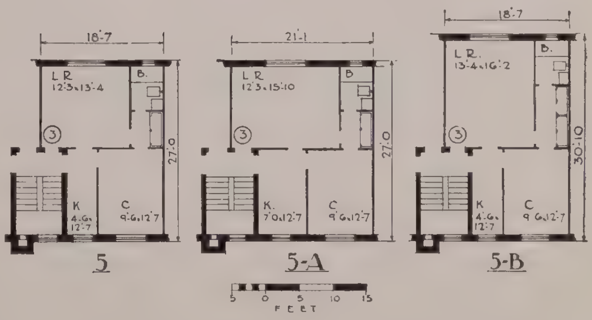

Here are the seven plans compared in the table on the facing page. Having drawn No. 1, the designer thinks perhaps a variation (No. 2) might be better. The table gives him a means of finding at once that No. 2 could rent for forty-five cents less per room

The cost of wall footings and parapet add an increment:

Parapet, 3' at $1.13	$ 3.39
Coping	.45
Flashing	.80
Footing—Concrete, 5/27 cu. yd. at $10	1.85
Reinforcing steel, 7 ft. at 5 cents	.35
Excavation, 2/9 cu. yd. at $2	.45
Backfill	.15
Brick to first floor	3.39
Forms, 8 sq. ft. at 15 cents	1.20
Total per lineal foot	$12.03
Dividing by 4 (four-story building), total per story	$3.01
Parapets and wall footings per lineal ft.	$3.01
Exterior wall of typical story per lineal ft.	$13.40
Cost factor per lineal ft.	$16.41

Now to sum up, the Rental Effect equals the cost factor times the rental factor: $16.41 × .715 per cent, or $0.1125 per room per month, the figure that appears in the table as the Rental Effect for item 2 under A.

For operating-maintenance rental effect we proceed similarly:

Redecoration cost, $0.01 per sq. ft. per mo.
Heating cost, $0.27 per sq. ft. per mo.
Height of interior wall, 8.5 ft.

Redecoration, per lin. ft. per mo.	8.5 x .01 / 12 =	$0.0071
Heating, per lin. ft. per mo.	1.85 x .27 / 12 =	.0415
Maintenance factor total		.0486 or .049

2. By similar calculations, the

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* In the table on page 98, the Rental Factor used was the one that was worked up for a limited-dividend corporation contemplating a loan from PWA. Calculation was as follows:

	Per cent
Cost	100
Contingencies	10
	110
Government Loan (at 85 per cent)	93.5
Equity (at 15 per cent)	16.5
	110
Annual Charges on *1st Cost Items:*	
Building Tax	2.06
Corporate Tax	.14
Interest, 4 per cent on 93.5 per cent	3.74
Amortization, 1.78 per cent on 93.5 per cent	1.66
Dividend, 6 per cent on 16.5 per cent	.99

Total, 8.59 per cent per year, or .715 per cent per month.

Other figures can be substituted for other financial set-ups and rates. For the present lending conditions set up by PWA, with 100 per cent government loan, the items of corporate tax and 6 per cent dividend disappear.

unit first costs and operation-maintenance costs *for the New York area* were arrived at for each of the criteria.

In regard to the plumbing, the problem is not so clearly quantitative. There are five possible plumbing arrangements: isolated bath; isolated kitchen; bath and bath back to back; kitchen and kitchen back to back; and bath and kitchen back to back. The criterion figure and rental effect for any plan are derived from the combination of these arrangements that is employed. In addition, a method is used that avoids fortuitously penalizing the small apartment, which of course has more plumbing per room than the larger apartment. It would be confusing to try to show all this in a table; any one interested as to the precise method of deriving these figures should communicate with The Housing Study Guild.

METHOD OF APPLYING THE TABLE

1. Calculate the number of units of each criterion per room, *e. g.*, Plan 1 has an average of 116 sq. ft. net per room (see the table), and 173.8 sq. ft. gross.

2. For rental due to first cost, multiply the number of units by the Rental Effect factor, *e. g.*, on Plan 1, 173.8 sq. ft. × $.0092 = $1.60.

3. For rental due to operating-maintenance cost, proceed similarly: *e. g.*, 173.8 sq. ft. × $.0017 = $0.30, which appears on table, section B under Plan 1.

4. Proceeding similarly through the ten criteria, the products are added together; the totals are the rental per room per month due to the criteria. The results are *not the total rental*, because only the *variables* have been considered, and because land is excluded. But the *differences* in these totals are the rental differences as between the different plans, due to the characteristics of the different buildings.

SIGNIFICANT RESULTS FROM THE TABLE

Seven sets of figures—for seven plan variations—appear in the table; the first two are exactly comparable, as the net room sizes are the same at 116 sq. ft.; the second two are for net room sizes of 122 and 123 sq. ft. The last three sets of figures were made up to show the cost in rental of increasing room sizes while leaving all other characteristics the same. Plan 5A is the same as Plan 5 except that rooms are widened; Plan 5B is the same as Plan 5 except that rooms are deepened. The plans used are not presented as particularly good plans; they are simply average plans adapted to show the uses of the table.

The following points may be noted, among other results:

1. The maximum difference in rental between the most economical back-to-back plumbing arrangement and the least economical is only 3 cents per room per month.

2. Where the number of closets and wardrobes per room is the same in various plans, there is no appreciable rental differential due to differences in arrangement. The cost for each wardrobe added or deducted, however, is seen to make a rental difference of 14 cents per room per month.

3. The item of doors may make an appreciable difference. Plan 1 is economical of doors; the arrangement of Plan 5A requires more doors. There is as much as 14 cents per room per month difference in rental due to this generally unconsidered item of the number of doors.

4. By glancing at Plans 1 and 2 one might jump to the conclusion that Plan 2 is the more economical. Quantitatively, the table shows that for exactly the same net room size, No. 2 could be rented for 72 cents per room per month less than No. 1 or almost $3.00 per month less for a four-room apartment. Over half of this saving is due to less exterior wall; about one-fourth is due to less stair cost per room, *i. e.*, more rooms per stair.

As between Plans 3 and 4, No. 4 could rent for 60 cents less per room per month than No. 3. Most of this (39 cents) is due to the greater number of rooms per stair. Most of the rest of the saving is accounted for by fewer lineal feet of partition. It is interesting to note that in some individual items the more economical plan is more expensive than the other.

5. Comparison between Plans 2 and 4 is illuminating. Plan 4, for only 6 cents more rental a month, gives rooms 6 sq. ft. larger and gives "privacy" to two-thirds of the apartments, while in No. 4 none of the apartments has privacy. [As here used, "privacy" means access from foyer to chambers without the necessity of passing through living-room, thus giving privacy to any one occupying the living-room as a sleeping room.] This is traceable to less space required for interior corridors, and the resultant less partitioning.

6. The last three plans, 5, 5A, 5B, show the effect of merely increasing room sizes, leaving everything else the same or as nearly the same as possible. Plan 5 has average net area per room of 111.6 sq. ft.; Plan 5A has rooms 18½ per cent larger, obtained by lengthening the rooms in a direction parallel to the exterior wall; Plan 5B has rooms 7 per cent larger, obtained by increasing the depth of rooms. Plan 5A must rent for 58 cents per room per month more, and 5B for 35 cents more than No. 5. Thus, to increase your room sizes by about 18 per cent increases rent by some 6 per cent in one case and 3½ per cent in the other. This confirms quantitatively what we all know, that to increase room sizes doesn't increase cost proportionately; and that it costs more to lengthen (widen) a room than to deepen it, because in the former case you add 1 lineal ft. of exterior wall for every increase of 1 ft. in room size, while in the latter case exterior walls don't increase at all, except the end wall.

ACCURACY AND LIMITATIONS OF THE TABLE

Unit prices and wage levels current in New York City in the spring of 1934 were used. No prices obtained in this way can be entirely accurate; in fact, no preliminary prices are ever entirely accurate. But as we are interested in *differentials* of rental as between plans, and as any inaccuracy affects *all* the plans almost equally, the differential is not much affected.

The table, once made up, can readily be changed for new financial set-ups and rates, as it can for changes in the price level.

The method assumes that all variables vary as continuous functions. This is not always true; for instance, in figuring the extra maintenance cost per square foot of exterior wall, it is assumed that heating costs vary directly as the exposed surface. This is not strictly true, as one fireman can probably take care of the extra heating required, so that this item in heating cost doesn't vary except for very large changes in heating requirements. But in spite of this type of limitation, the tables are sufficiently accurate for the purposes intended.

BOOK REVIEWS

THE EVOLVING HOUSE. Vol. II, The Economics of Shelter. By Albert Farwell Bemis. 605 pages, 6 by 9 inches. Illustrations from graphs, diagrams, plans, and maps. Cambridge, Mass.: 1934: The Technology Press, Massachusetts Institute of Technology. $4.

The author has undertaken a staggering task: a survey of mankind's efforts to improve his shelter; why his shelter today costs more than it should; and, in a third volume still to come, pointing out specific means of bringing shelter into line with our other more fully developed industries. In the present volume the picture of the architect is not a pretty one. He, of course, has had nothing whatever to do with fully 80 per cent of the dwelling-houses of the United States. According to the author, he is too much concerned with style, and too little with matters meaning more to the owner. This comprehensive survey, showing why we do not get more house for our money, should be read by every architect.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE, 1934. Vol. 12. 846 pages, 6 by 8¾ inches. Illustrations from diagrams and graphs. New York: 1934: American Society of Heating and Ventilating Engineers. $5.

An annual publication with the purpose of bringing before the profession the latest developments in the many phases of a broad subject. A section of the volume is given over to manufacturers' catalogue data uniformly arranged.

THE STORY OF GARDENING. From the Hanging Gardens of Babylon to the Hanging Gardens of New York. By Richardson Wright. 475 pages, 6½ by 8½ inches. Illustrations from old prints, drawings, and photographs, with color frontispiece. New York: 1934: Dodd, Mead & Company. $3.

The editor of *House and Garden* set himself a stupendous task in tracing the history of gardening from the time when primitive man first stirred the soil with a sharpened stick to encourage the growth of his food, down to our own time when gardeners and the garden clubs flourish throughout the land. Mr. Wright has performed a feat of research to get the facts and has put these facts into the smoothly flowing story that one has come to expect of his writing.

HARVARD CITY PLANNING STUDIES.

6. THE DESIGN OF RESIDENTIAL AREAS. Basic Considerations, Principles, and Methods. By Thomas Adams. Preface by Theodora Kimball Hubbard amd Henry Vincent Hubbard. 296 pages, 7 by 9¾ inches. Illustrations from plans and diagrams. Cambridge, Mass.: 1934: Harvard University Press. $3.50.

7. MODEL LAWS FOR PLANNING CITIES, COUNTIES, AND STATES. Including Zoning, Subdivision Regulation, and Protection of Official Map. By Edward M. Bassett, Frank B. Williams, Alfred Bettman, and Robert Whitten. Preface by Theodora Kimball Hubbard and Henry Vincent Hubbard. 137 pages, 7 by 9¾ inches. Cambridge, Mass.: 1935: Harvard University Press. $2.50.

Here are two additions to the Harvard City Planning Studies. The first, by Thomas Adams, is a masterly presentation of the housing problem—not merely low-cost, but middle-cost and high-cost as well. Here is no mere theorist's dream of Utopia, but a summation of experiences covering an international field and a long period of time.

The seventh volume in the series deals with a very present problem—that of arranging our laws so as to provide a proper utilization of the police power by communities in restricting their building for the greater good of the greater number.

THE CATHEDRALS OF ENGLAND. By Harry Batsford and Charles Fry. Foreword by Hugh Walpole. 118 pages, 5½ by 8½ inches. Illustrations from photographs and line drawings, with color frontispiece. Printed in Great Britain. New York: 1934: Charles Scribner's Sons. $2.75.

A comprehensive pictorial review of the cathedrals, for the layman who likes to know something about what he sees in the architectural and art treasures of our heritage. Nor will the deeper student of England's ecclesiastical architecture fail to find in these closely packed pages many facts of which he has never heard.

FLOW IN ROOF GUTTERS. By K. Hilding Beij. 21 pages, 6 by 9¼ inches. Illustrations from diagrams. Research Paper PR644. Pamphlet binding. Washington: 1934: U. S. Department of Commerce. 5 cents.

AN INVESTIGATION OF REINFORCED CONCRETE COLUMNS. By Frank E. Richart and Rex L. Brown. 94 pages, 6 by 9 inches. Illustrations from photographs and graphs. Bulletin No. 267. Pamphlet binding. Urbana, Ill.: 1934: University of Illinois. $1.

THE OLD INNS OF ENGLAND. By A. E. Richardson. Foreword by Sir Edwin Lutyens. 118 pages, 5½ by 8½ inches. Illustrations from photographs and line drawings, with color frontispiece. Printed in Great Britain. New York: 1934: Charles Scribner's Sons. $2.75.

If, as the author says, to you "saloon" is different from "public bar"; if you know better than to order beer in a wine house; if you can feel the difference between coffee-room and restaurant; if you are the sort of person who does not get shown into the parlor as soon as you enter a village ale house, then this book is intended for you. Mr. Richardson has brought together here practically all the facts and indispensable examples, with some personal discoveries not generally known to the public.

An Office Lobby in a Loft

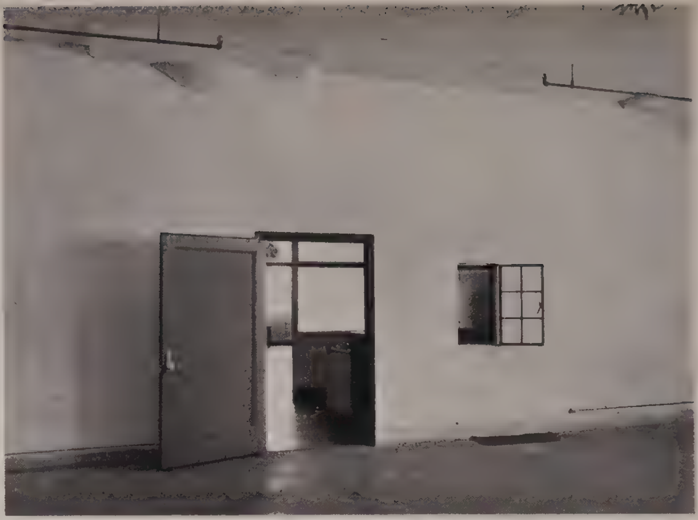
LOBBY FOR M. GRUMBACHER IN MASTER PRINTERS BUILDING, NEW YORK CITY

GERALD K. GEERLINGS, ARCHITECT

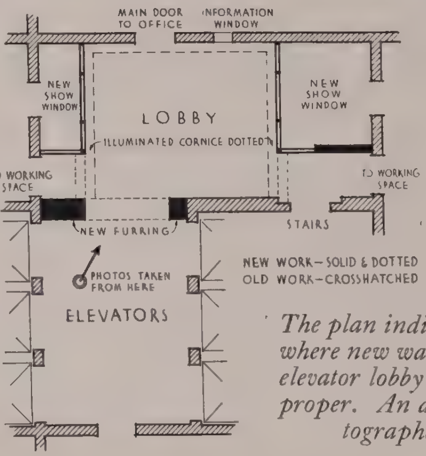
THE existing conditions included a general lobby leading from an elevator lobby in an awkward manner, doors scattered without reasonable relationship, and a ceiling marred by structural projections and sprinkler pipes. The problem consisted of providing two show windows, one shallow and the other deep, where the client could display the art materials he manufactures in such a way that retail dealers could get display ideas. It was important to obtain a concentration of interest on the show windows, yet lead the eye naturally to the main office door and information window.

It is evident that by concentrating all light at a height of seven feet, the ceiling (twelve feet high) is so dark that none of the structural excrescences and sprinkler pipes show.

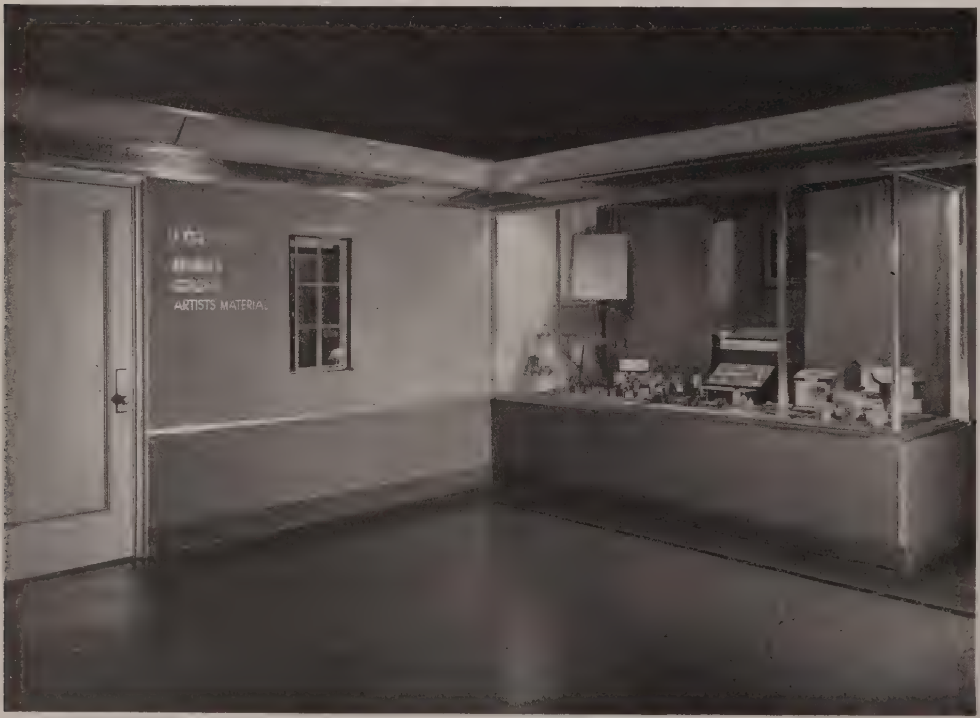
This solution, as to the color scheme of which see the captions, is interesting chiefly because it deals with a common condition where walls and ceilings are irregular and must be made to look attractive for a small sum. The reason for selecting blue is that it above all colors has a certain atmospheric quality which makes the wall take a less fixed position in one's consciousness than any other. Obviously it is important that all wall colors be of mat finish, with only the metal polished for accentuating contrast.



The loft as it was, its ceiling full of the usual structural excrescences and sprinkler pipes



The plan indicates by the solid black where new walls were built to keep the elevator lobby distinct from the lobby proper. An arrow indicates the photographer's point of view



Photographs by Richard Averill Smith

Above the cornice, both walls and ceiling were painted a midnight blue, successfully keeping the eye on the points of interest—the sample show windows. Three shades of blue are used, with polished aluminum: base, a dark blue, almost black; dado, a fairly deep blue to the metal band; above this, a pale horizon blue to the cornice. The floor is in the same three shades of blue. Existing doors and trim were sprayed with aluminum paint, then lacquered

The Editor's Diary

Saturday, November 24.—Today was all too short to accomplish half of the things I would like to do in Washington. Called on LeRoy Barton, who acts as a sort of liaison officer between Secretary Morganthau and the Supervising Architect's office. Mr. Morganthau, by the way, has just appointed three architects to serve as a visiting committee to criticise and correlate the design of public works: Aymar Embury II of New York, Charles Z. Klauder of Philadelphia, and Philip B. Maher of Chicago. Inside the drafting-rooms of Building F and the Government Warehouse, the three are known as "the Immortals." Barton took me in to meet Assistant-Secretary Reynolds, who is having his own troubles these days in trying to build worthy structures within greatly reduced budget allotments. Thence to The Octagon to pay my respects to the Institute, then to inspect the new Post-Office Department, Department of Justice Building, and Archives Building in the Triangle, with a hasty visit to the Supreme Court Building in its white marble splendor, and back to New York.

Wednesday, November 28.—Pope Barney in from Philadelphia to spend a luncheon hour or two or three. Whereas the Diary has been rather freely interspersed with comment pointing out the desirability—even necessity—of the architects' finding a practical way to render architectural service to the builder of a small home, Barney believes that the solution hardly lies in that direction. Learning how to render architectural service to the individual, whether large or small, will achieve little more than has been achieved on a slightly higher scale of cost in the past. On the other hand, he points out that the only hope of permanent satisfaction for the small home builder lies in the design of neighborhoods and communities as a whole, rather than in his individual house. It is to this field of planned community effort that Barney feels the architect must devote more of his energies.

Friday, November 30.—Architects as well as librarians have spent many troublesome hours in the attempt to estimate the amount of shelf space required to house a given number of books. Robert W. Henderson, in charge of the New York Public Library stack, supplies a long needed unit of measurement which seems likely to become an accepted standard. He devises the "cubook," which is the volume of space required to shelve the average book in a typical library. It so happens that a standard three-foot section, seven and a half feet high, contains one hundred cubooks. Naturally the new unit takes into consideration the varying sizes and their proportion in a typical library, and also the important factor of unfilled shelf space to permit of classification. To calculate the space to house a million books it is now necessary merely to divide the number by one hundred, and the quotient is the number of single-faced three-foot standard sections required.

Saturday, December 1.—C. A. Dykstra, who is City Manager of Cincinnati, points out a fact that is rather obvious, yet surprisingly unaccepted by the general public. We hear frequent wails that the cure for technological unemployment, urban crowding, and even unemployment itself, is a return to the land.

Yet agriculture as a business cannot absorb any more workers or proprietors—its production has even now been restricted, just as the over-production of any branch of industry would be automatically restricted by laying off employees and shutting down parts of the factory. On the other hand, agriculture as a way of life can offer relief only to those who have a competence or an income from some non-agricultural source. As Mr. Dykstra points out, we seem to be merging the advantages of rural and urban life. The city goes to the country with good roads, machinery, the telephone, gas, electric light, the radio, bathrooms, and other things, and the country comes to the city with light, air, open spaces, health, and fresh markets. Communication is the link between them. There can be no economic or business reason for a back-to-the-land movement unless we are willing to confess that most of us are to live on an agricultural subsistence level. Such a confession is tantamount to an admission of the failure of inventive and educational progress.

Monday, December 3.—B. Charney Vladeck, a member of the New York City Housing Authority, whose recent words in these pages regarding the architect in the social structure ruffled many feathers, points out some fundamentals with regard to housing which apparently are very much confused in the public mind.

1. "The difference between public building and private building is only that of financing and management. The effect on employment and the building industry is exactly the same.

2. "No private builder can provide homes for the low-income classes of our population with any expectation of profit."

3. In England, to which we are being directed as a model of community housing, it is true that considerable building is being done by private enterprises. Nevertheless, vast funds have been invested there in low-cost housing on a basis of approximately two per cent income spread over about sixty years. It is also true that the demolition of unsanitary dwellings—the condemnation and removal of slums—is being carried out by the local and federal governments at public cost.

4. "The most radical program of public low-cost housing in New York City would in no way adversely affect private building. On the contrary, it would stimulate it through raising the general standard of housing throughout the city."

Wednesday, December 5.—Our friend, Sris Chandra Chatterjee, who visited us two or three years ago in the interests of his native arts and crafts, is at present organizing, in Calcutta, an institute for teaching Indian architecture, under the guidance of Mr. Perry Brown. The school opened on November 24, Mr. Syama Prasad Mookerjee, vice-chancellor of the University of Calcutta, having consented to become its president.

Thursday, December 6.—Frederick Stuart Greene, Commissioner of Public Works for the State of New York, faced an antagonistic group at the League today at lunch, and told the architects why he preferred to do State work through a central organization at Albany rather than through architects in private practice. The Colonel never fails to say just what he means and what he believes, and this was no exception. He was forcibly convincing in his contention that the State can design its public buildings more quickly, more efficiently, and more cheaply that it could do through independent practitioners. The Colonel dropped, incidentally, the interesting fact that in 1931, which was the State's most active year in architectural endeavor, there were over four hundred architects employed in the organization at Albany. Unfortunately, the number has dwindled to about half of that now.

Saturday, December 8.—Harvey Corbett is out again with the opinion that the prefabricated house of steel is going to solve our housing problem and many others. He believes that we are almost upon the culmination of years of research in finding a house that can be produced in quantities for from forty to fifty per cent less than the conventional types. It seems to me that we are farther from that point than he thinks.

Monday, December 10.—Eliel Saarinen has a group of his city-planning students at the Cranbrook Academy of Art working on a new plan for Detroit. As he says, "The City Planning Commission is greatly handicapped, since it has no authority over existing laws or lands that are not the city's. But we, as city planners, are not bound by these restrictions—for laws and land values change greatly with the years." We have not seen the plan worked out, but will wager it is a good one.

Tuesday, December 11.—Roger Whitman, who talks about home-owners' troubles in a newspaper column and over the radio, tells me that he wishes the architects were better informed as to what happens to a house five years after they build it. Whitman's job is to tell the owner how to fix the many things that go wrong. Not in this category, but as an interesting point of discussion, he brought up the curious difference of opinion between experts as to whether shingles should be laid over shingle-lath or over roof boarding. I believe the National Lumber Association says to put them over sheathing and paper. The Bureau of Standards refers the question to the Forest Products Laboratory, which says put them over sheathing. Some of the shingle manufacturers, on the other hand, say that they last longer if they have the better ventilation of the shingle-lath support. Curiously enough, this shingle-lath idea seems to prevail only in the middle and lower Atlantic seaboard. It seems difficult to find specific case histories offering a direct comparison between the two methods.

Wednesday, December 12.—Frederic A. Delano brings to the work of the National Planning Board a broad outlook and a keen vision. He is disturbed over the fact that in this country it has only been in times of crises that the people have given a serious thought to nationwide planning, and then the trouble is that it has to be too hurriedly done, and moreover, is too often forgotten when the crisis has passed.

Friday, December 14.—Clarence Stein showed us the progress of his Hillside Housing project this morning—Charles Butler, Albert Mayer, Henry S. Churchill, and myself. Even with a familiarity with published drawings, the visitor is startled by the size of this scheme. There are nearly five thousand rooms provided in the group, supplying, chiefly, three- and four-room apartments, with a few of two rooms, and still fewer of five rooms. The brickwork is nearly completed, using, I believe, something like fifteen million brick—a Hudson River brick somewhat larger than the standard size. The plumbing is being installed, and we were particularly interested in the amount of simplification which has been developed in the pipe lines through special fittings and the like. Nevertheless, the stacks could be very much further simplified if it were not for the insistence of union labor upon continuing the large proportion of field work that is traditional. Each time one of these large building projects is put up, the union gives way very slightly to the demands for a greater amount of shop work in order to save work on the job, but the progress is rather slow. There seems to be a great need for the development of a system of piping that will provide for expansion and contraction without the necessity for three-way elbow turns—here is a chance for the inventors. We were particularly interested in seeing how Clarence Stein has secured practically all of his restrained architectural embellishment merely through the skillful handling of his brickwork. Turning a brick on end or on its side is, after all, the least expensive way of getting architectural accents in a building of this kind, where cost is a dominant factor.

* * *

Saturday, December 15.—These sculptors are great playboys at times. St. Thomas's in New York is full of contemporary humor, such as the dollar sign over the bridal door. I hardly thought, however, that any one would be likely to be playful with the Supreme Court Building in Washington. Nevertheless, Robert Aitken's pediment over the west front shows Cass Gilbert laying down the law to Elihu Root, and Chief Justice Hughes conversing with Robert Aitken himself. The late Chief Justice Taft is also present, though somewhat disguised to the casual eye by appearing in his more slender youth. John Marshall is also shown as a boy.

Monday, December 17.—Louis La Beaume, who usually says something when he opens his mouth, writes a splendid essay in the *Illinois Society of Architects Monthly Bulletin*—"Watchman Tell Us of the Night." One cannot condense all of the philosophy in this essay into a few sentences, but the gist of it is that even though things have looked very black for the architect, "it is difficult to imagine any civilization without some sort of architectural ideal. . . .

"That we have been following false gods is undeniably true. We have heard far too much of the necessity for the architect to become business man, engineer, promoter, banker, real-estate operator, sociologist, what not? in order to compete with these several hierarchies. We have been urged to advertise, to fraternize, to contract, to expand, to be an Elk, or a Lion, or a Moose, or a Mason, even in these days when we are warned that the era of masonry has passed, and all we shall have to do will be to cover skeleton structures with synthetic raiment. We have been frightened by the encroachments of the contractor and speculative builder into the sacred grove which is the hallowed abode of our shy Muse. . . . Also we must admit that perhaps ninety-nine per cent of present-day building is not architecture at all, though much more of it might well be. Of all the prose written since the world began, only an infinitesimal part is literature."

Wednesday, December 19.—Theodore Kautzky has a rather nice showing of water-colors at The Architectural League, among which some of his small interiors are particularly interesting.

Thursday, December 20.—DeWitt Clinton Pond, who is now Associate Professor of Architecture at New York University, tells me an encouraging fact regarding their educational methods. The Beaux-Arts Institute problems are used, but in the course of the student's study of any particular project, one of the construction members of the faculty comes to his table and discusses informally with him the way his imaginary building would be built. This does not get down to construction details, of course, but it does insure some thought on the part of the student as to whether and how what he is designing could be put up.

Saturday, December 22.—Today marks the first mortgage loan to be issued under Title II of the National Housing Act in the regional area comprising New Jersey, Pennsylvania, and Delaware, and possibly the first in the country. A home costing $8,500 bears a mortgage of $4,800 held by the Prospect Park (N. J.) National Bank, and insured by the government. The owner will pay the bank about fifty dollars monthly, to cover interest, amortization, taxes, fire insurance, and mortgage guarantee insurance. In twenty years, or less, these payments will have paid off the mortgage.

Monday, December 24.—DeWitt Clinton Pond gave me an interesting fact the other day in the weight of the Great Pyramid as compared to the weight of the Empire State Building—a comparison that means very little, possibly, excepting that our commercial stone buildings of today are of steel supporting a very thin skin of stonework. As Pond puts it: "The Great Pyramid, 7,000,000 tons, no rentable area; the Empire State Building, 303,000 tons, with a rentable area of 158,000 sq. ft."

Nevertheless, I'd hate to think that "rentable area" is, today, our chief measuring-stick.

Wednesday, December 26.—The Women's Division of the Architects' Emergency Committee, New York City, is at its good work again this year to raise one hundred thousand dollars, half of which is already in sight. Mrs. Joseph Urban, who is chairman of the Women's Division, hopes that this may be the organization's last public appeal for emergency funds.

THE ONE HUNDREDTH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS
ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

ARCHITECTURE'S PORTFOLIO OF

TILE ROOFS

Subjects of previous portfolios are listed below at left and right of page

1926
DORMER WINDOWS
SHUTTERS AND BLINDS

1927
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS

1930
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS

Below are the subjects of forthcoming Portfolios

Molded Brick
MARCH

Dormer Windows
APRIL

Entrance Seats
MAY

Overdoors, Interior
JUNE

Brick Cornices
JULY

Signs
AUGUST

Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up about six weeks in advance of publication date.

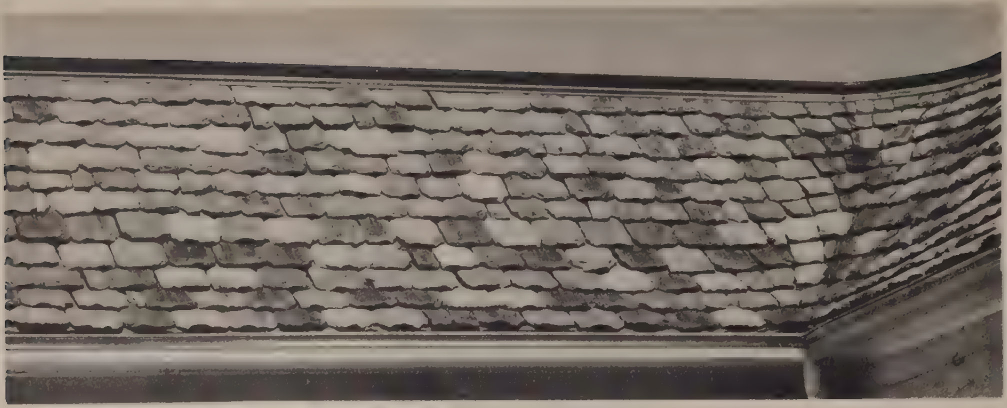
1931
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNS
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS

1932
RADIATOR ENCLOSURES
INTERIOR CLOCKS
OUTSIDE STAIRWAYS
LEADED GLASS MEDALLIONS
EXTERIOR DOORS OF WOOD
METAL FENCES
HANGING SIGNS
WOOD CEILINGS
MARQUISES
WALL SHEATHING
FRENCH STONEWORK
OVER-MANTEL TREATMENTS

1933
BANK SCREENS
INTERIOR DOORS
METAL STAIR RAILINGS
VERANDAS
THE EAGLE IN SCULPTURE
EAVES RETURNS ON MASONRY GABLES
EXTERIOR LETTERING
ENTRANCE DRIVEWAYS
CORBELS
PEW ENDS
GOTHIC NICHES
CURTAIN TREATMENT AT WINDOWS

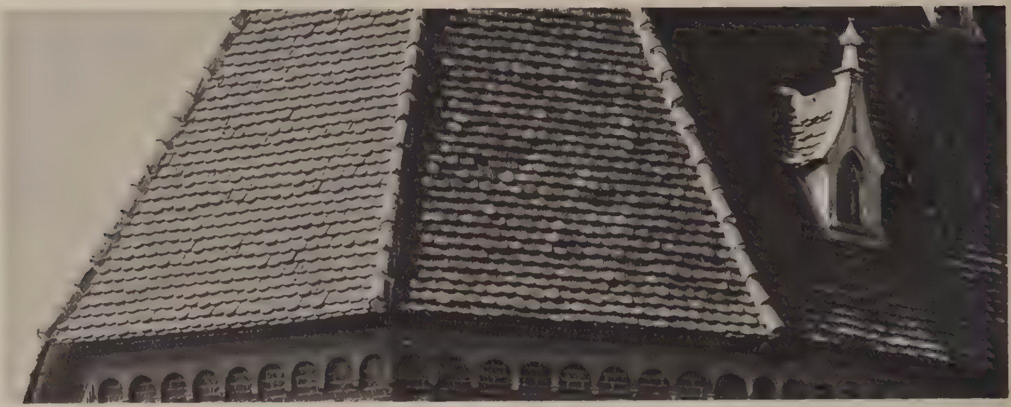
1934
EXTERIOR PLASTERWORK
CHURCH DOORS
FOUNTAINS
MODERN ORNAMENT
RUSTICATION
ORGAN CASES
GARDEN FURNITURE
WINDOW HEADS, EXTERIOR
SPIRES
BUSINESS BUILDING LOBBIES
ROOF TRUSSES
MODERN LIGHTING FIXTURES

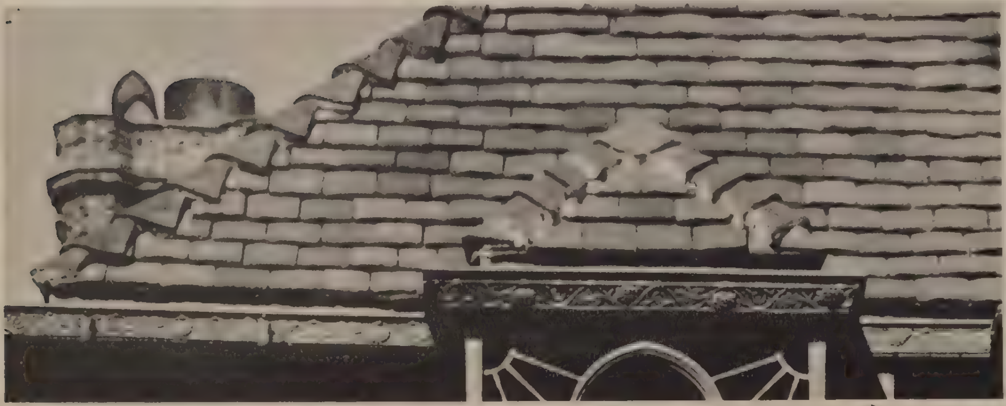
1935
CIRCULAR WINDOWS, GOTHIC AND ROMANESQUE



Atlanta, Ga.
Hentz, Adler & Shutze

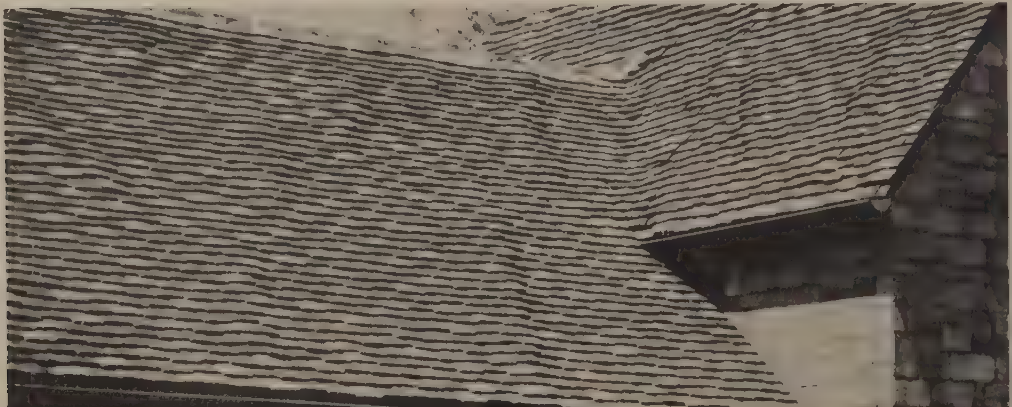
Church at Vorkerode, Germany



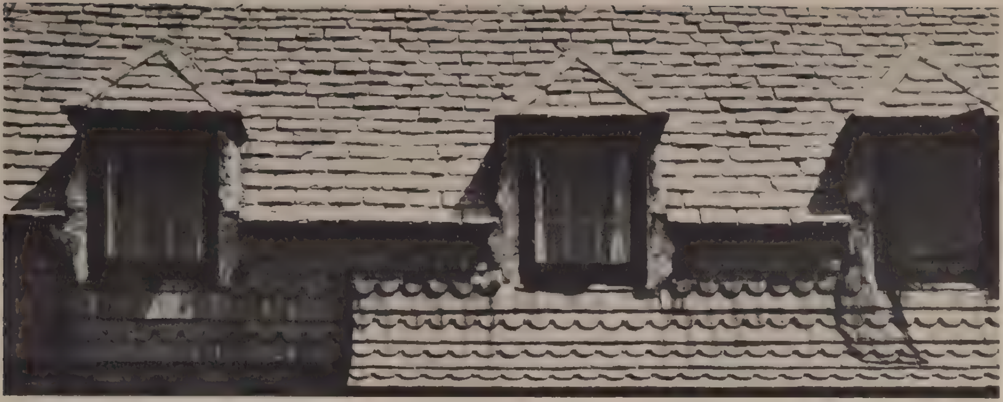


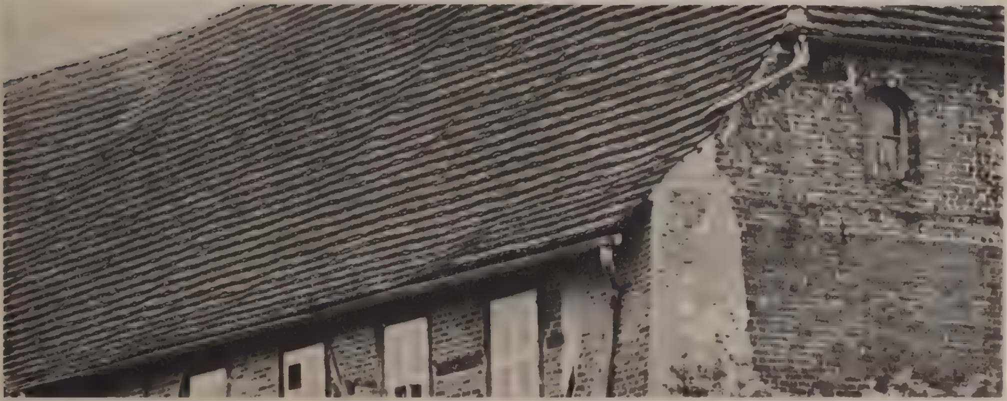
Evanston, Ill.
Richard Powers

Jericho, N. Y.
Hopkins & Dentz



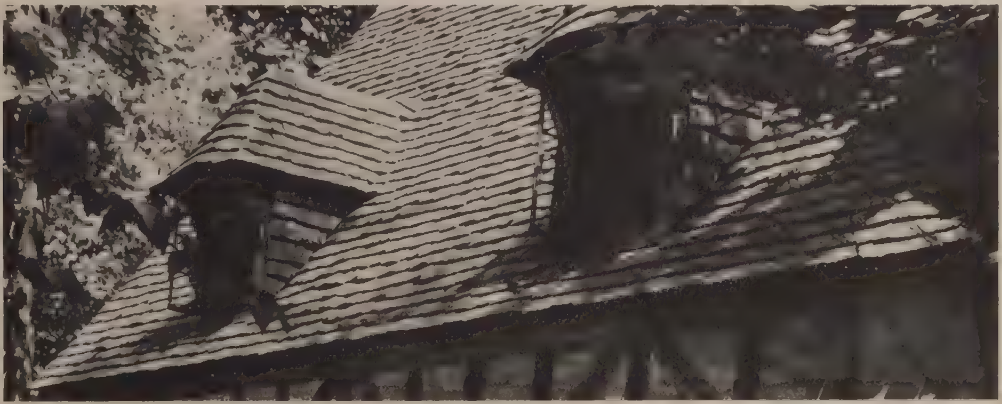
Hackensack, N. J.
Wesley Sherwood Bessell

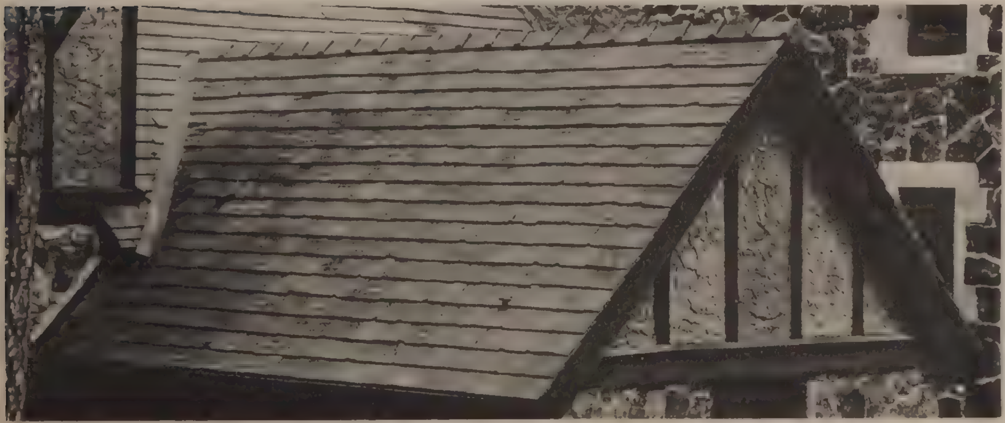




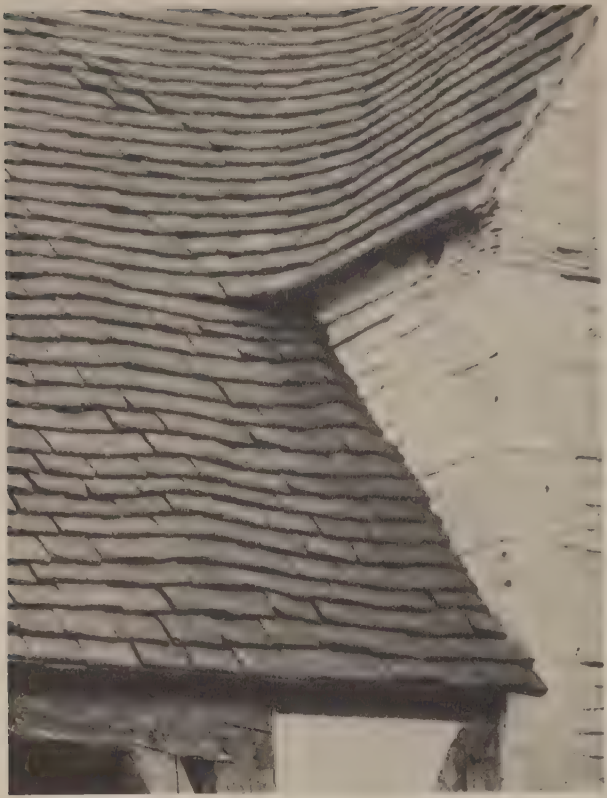
The Old Castle at Neustadt, Germany

Greenwich, Conn.
Frank J. Forster;
R. A. Gallimore

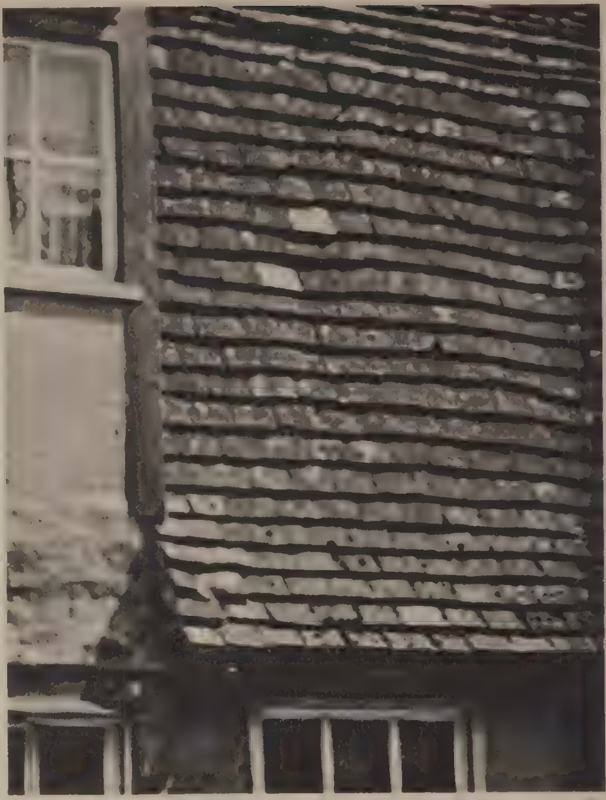




Chattanooga, Tenn.
William H. Sears

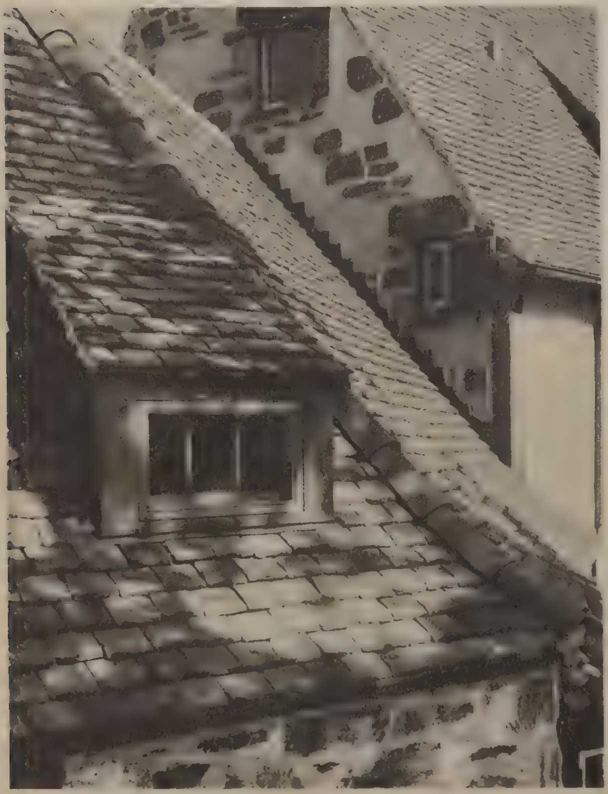


Greenwich, Conn.
Greville Rickard

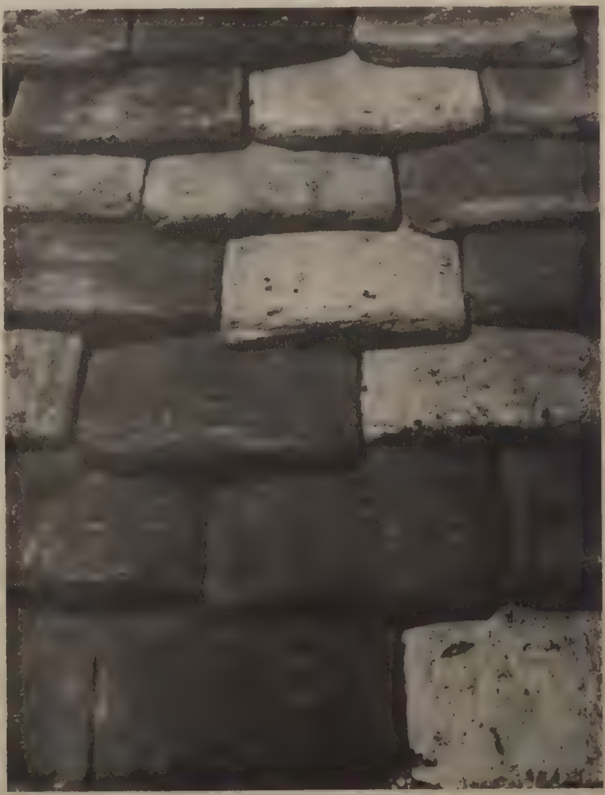


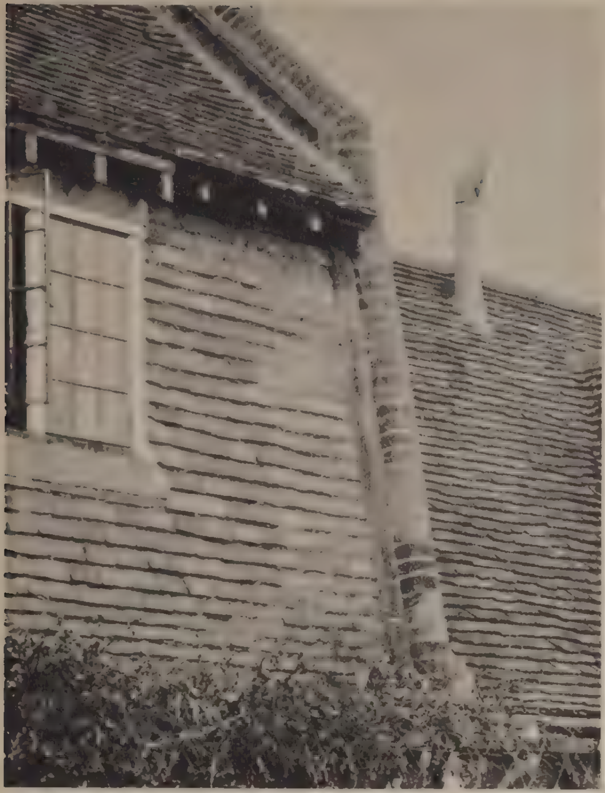
Saint Neots, Huntingdonshire, England

Greenwich, Conn.
William F. Dominick

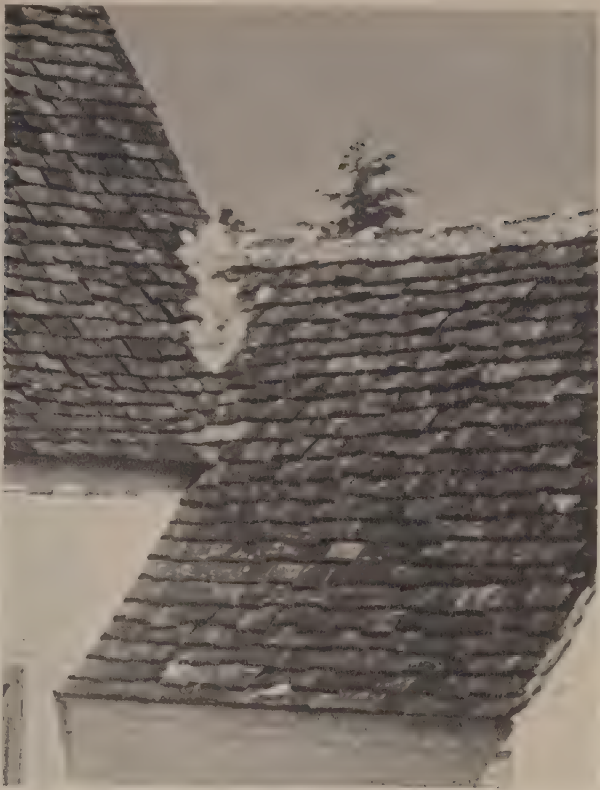


An American-made shingle tile patterned after an old European type



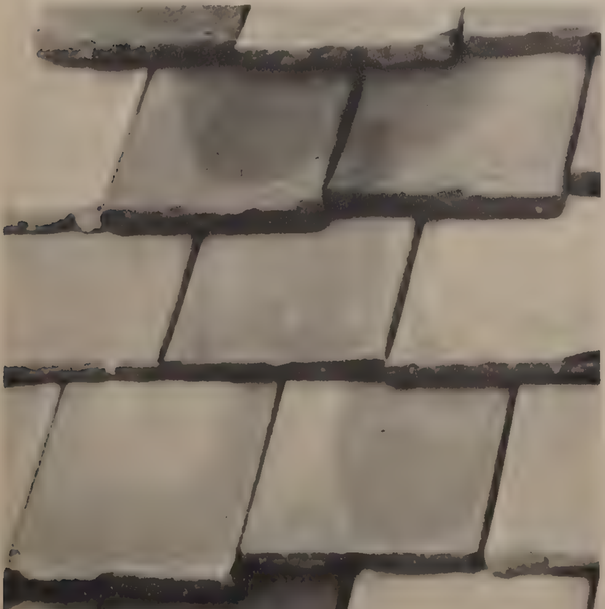


Almshouses, Bray, England

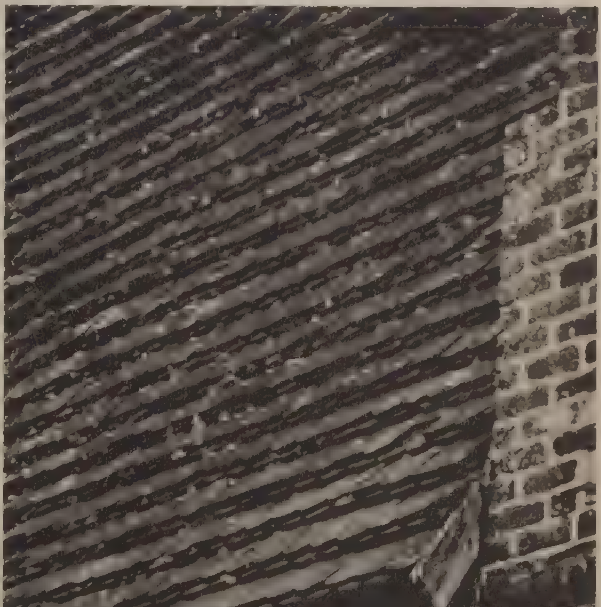


New Canaan, Conn.
Frank J. Forster

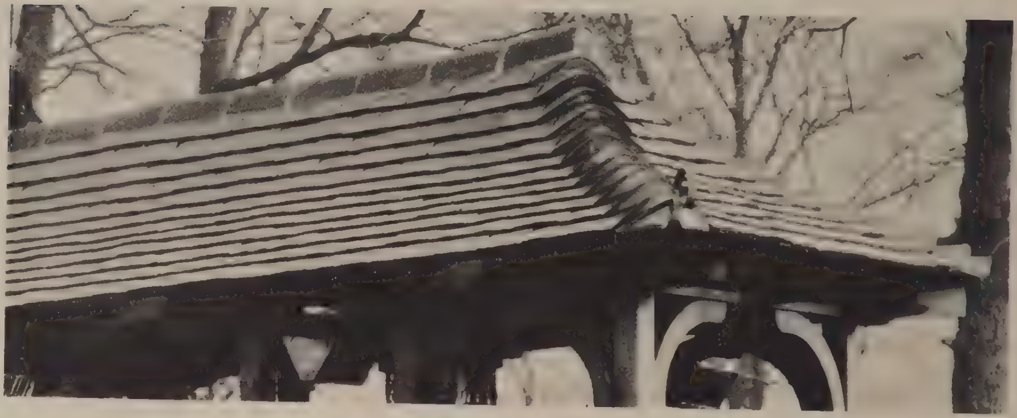
An American-made shingle tile patterned after the Yorkshire type



The former St. George Chapel, Wolgast, Germany

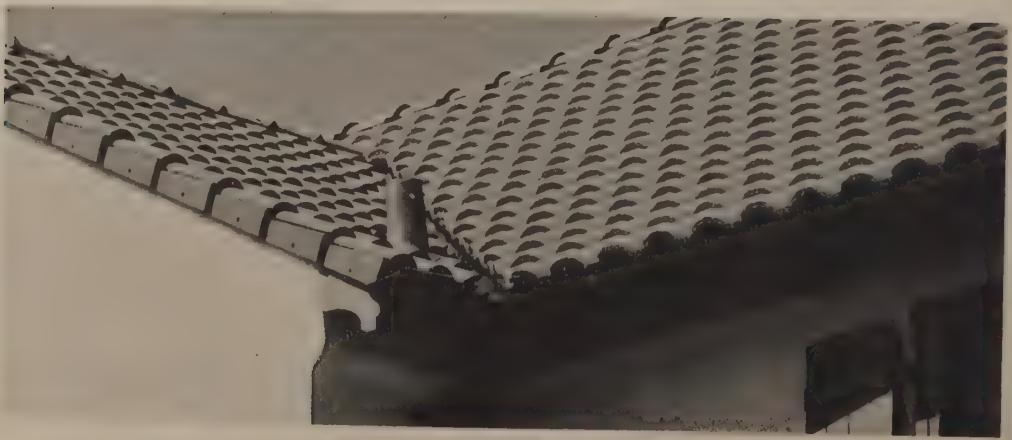


Harrison, N. Y.
Frank J. Forster;
R. A. Gallimore

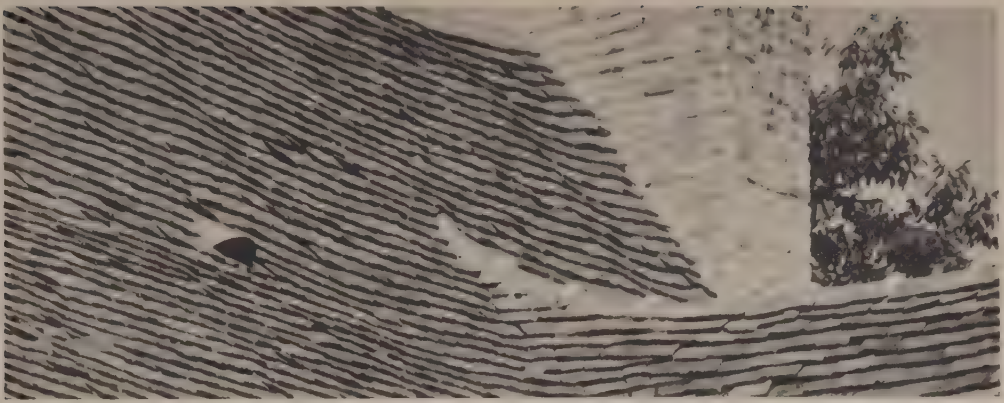


Modern English type near Coombs Bridge, London

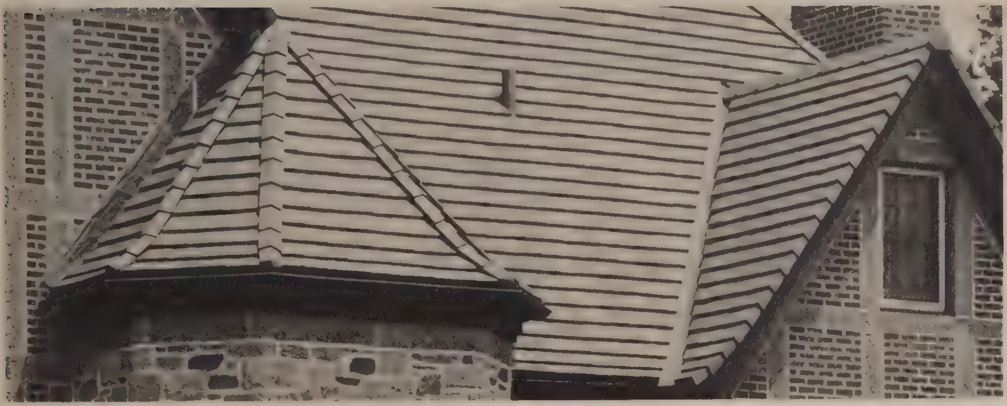
Irregular courses at Husborne Crawley, England



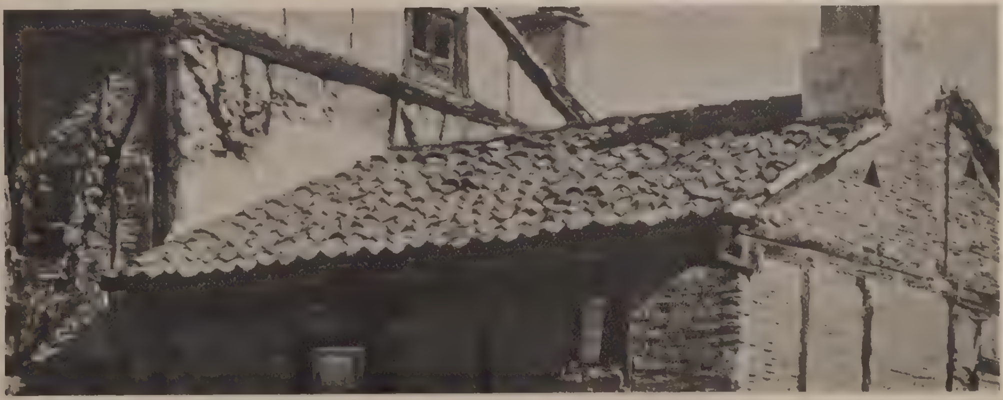
Hewlett Manor, N. Y.
John C. Greenleaf



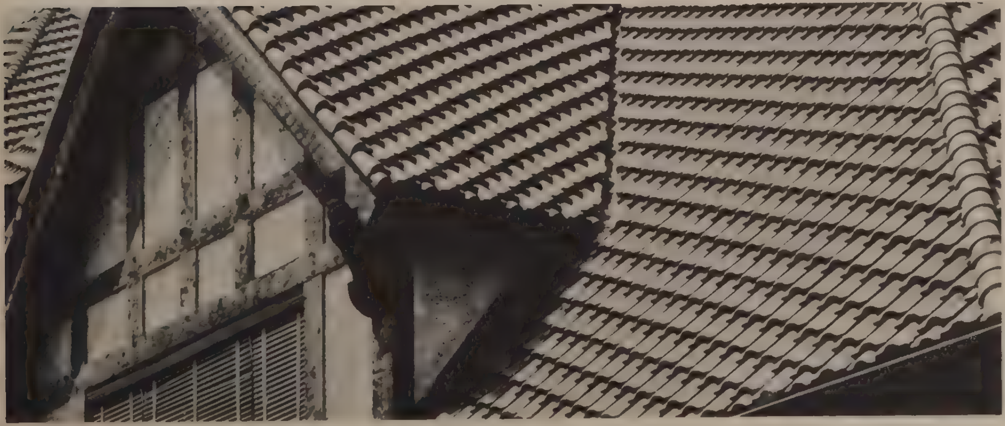
Greenwich, Conn.
Greville Rickard



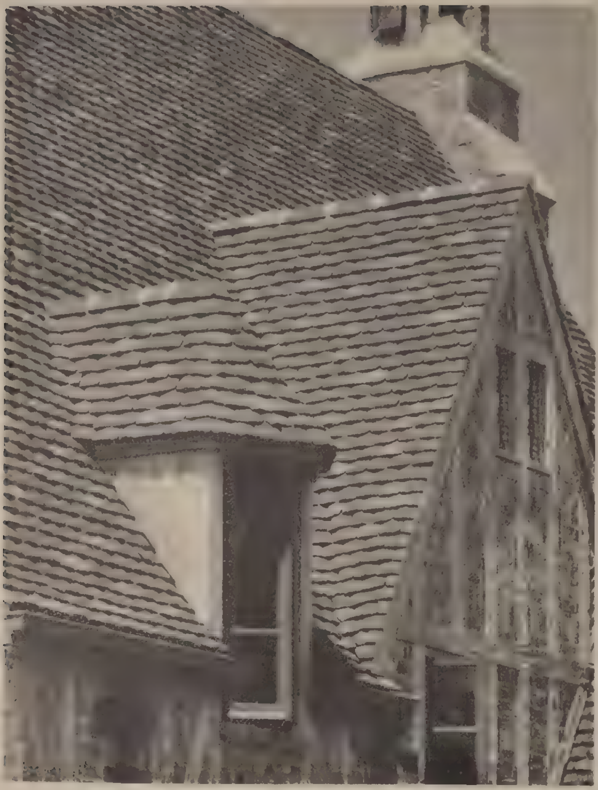
Forest Hills, N. Y.
Grosvenor
Atterbury



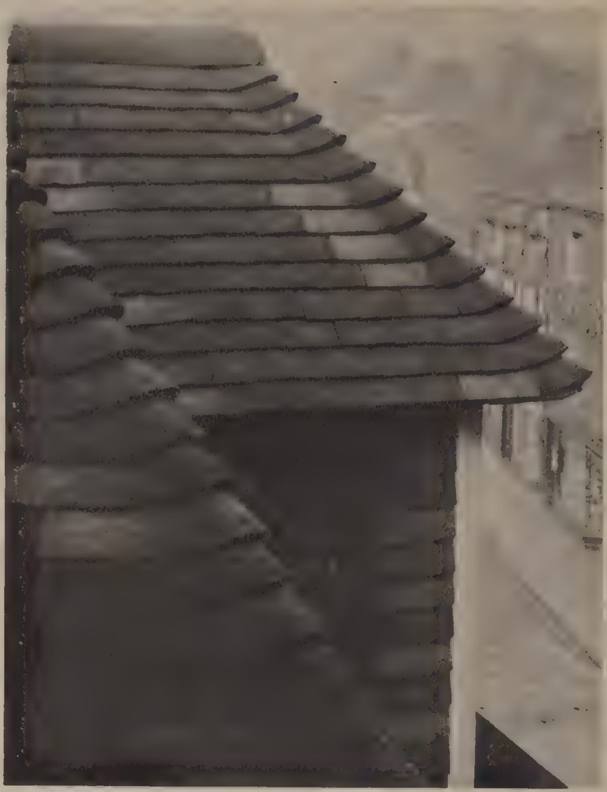
An unusually flat
U-tile, Segovia,
Spain



Lenox, Mass.
Howells & Stokes

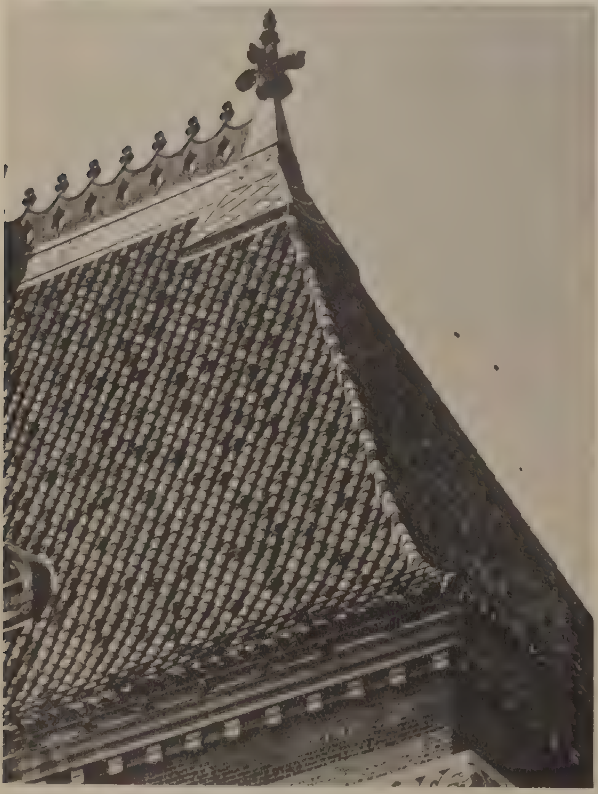


Mount Desert, Me.
Grosvenor Atterbury

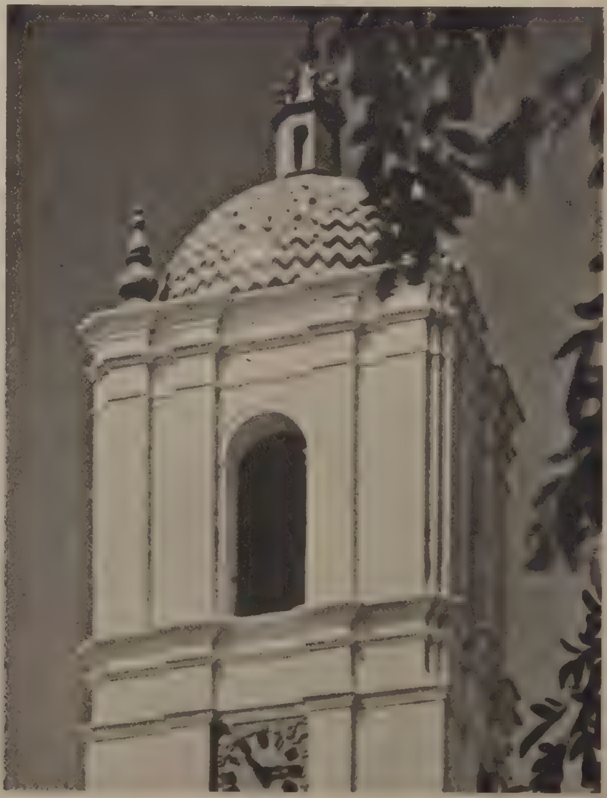


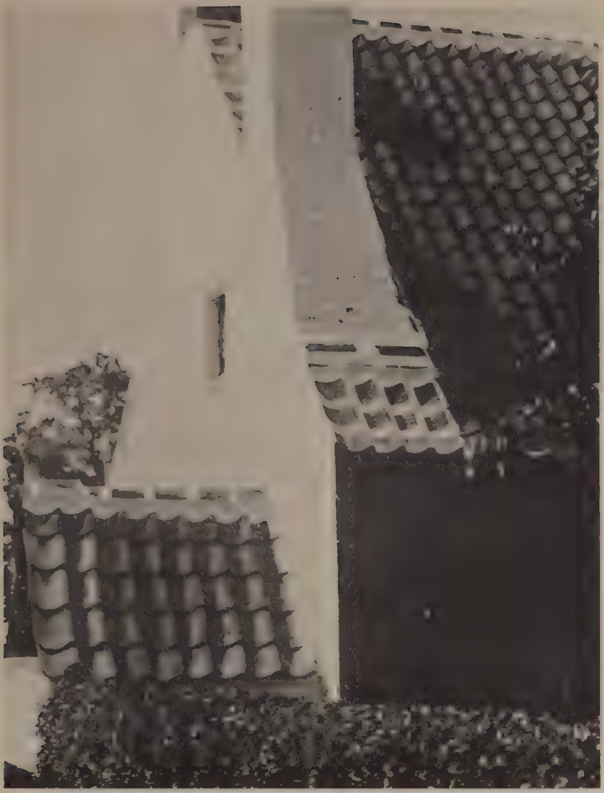
A neat return on hips, Guildford, England

Kings County, N. Y.
LeRoy P. Ward

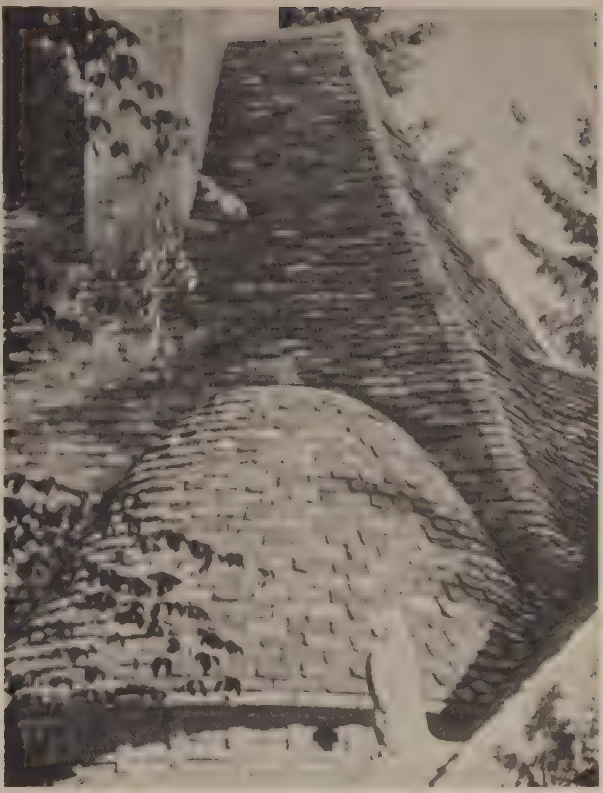


Beverly Hills, Calif.
Ralph C. Flewelling



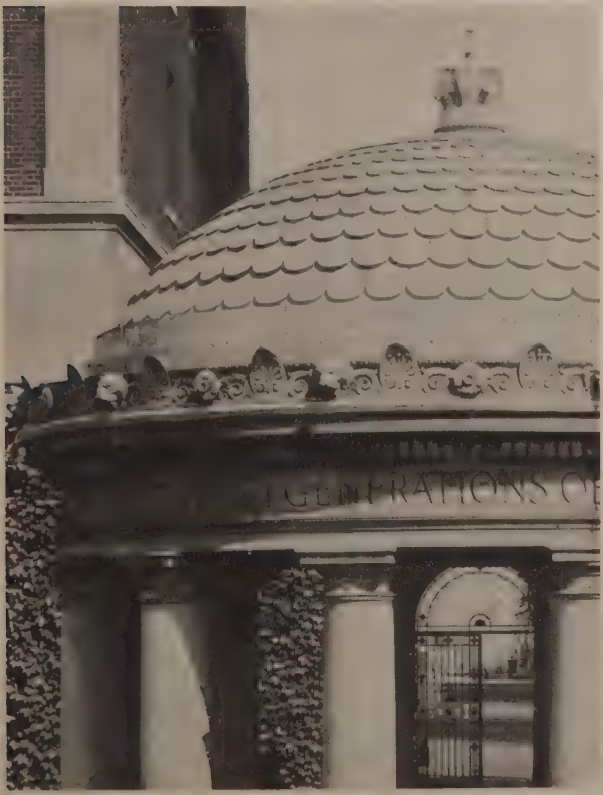


Moerkerke near Bruges, Belgium

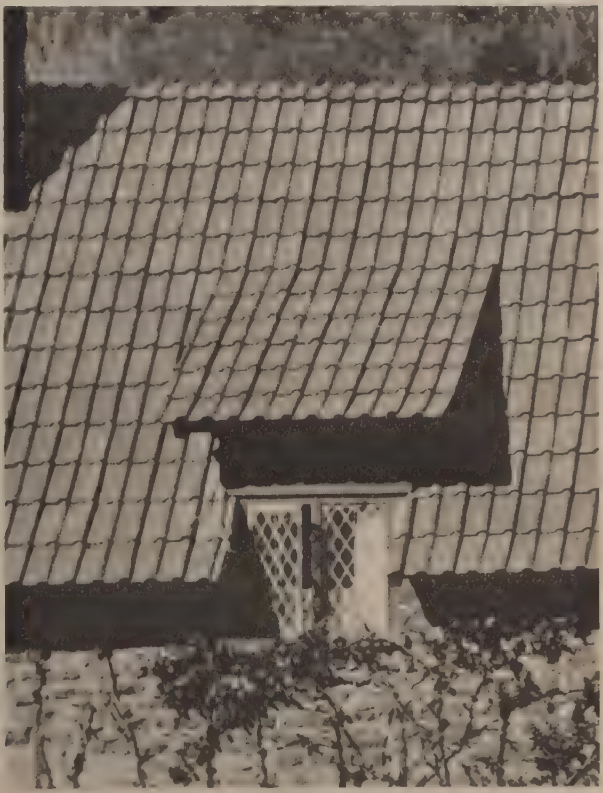


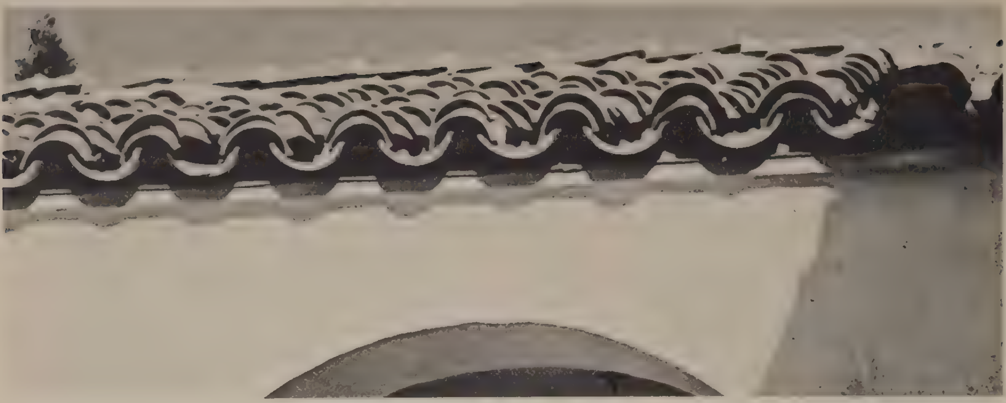
Portland, Ore.
Herman Brookman

Van Amringe Memorial, New York City
McKim, Mead & White

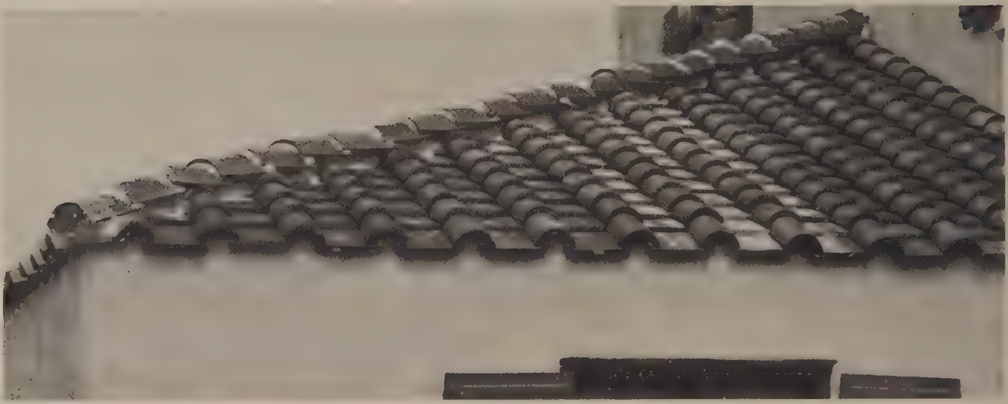


Modern S-tile, Allerford Bridge, England

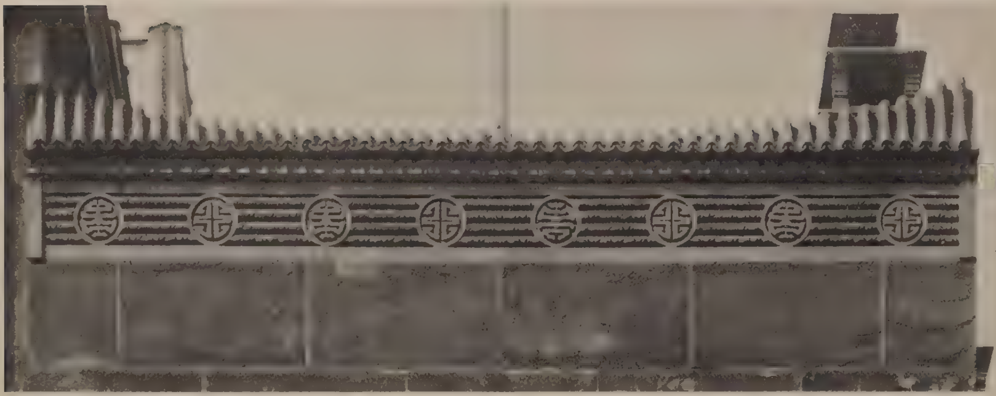




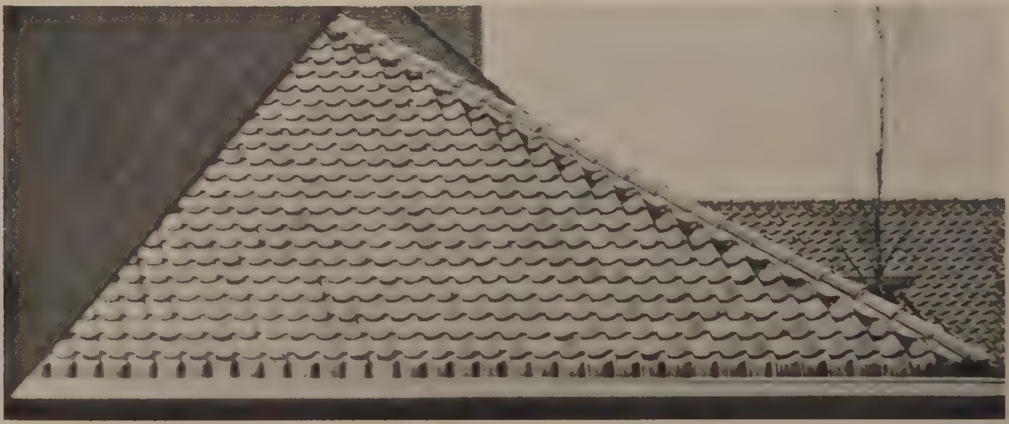
Southern California Gordon B. Kaufmann



Southampton, N. Y. Peabody, Wilson & Brown

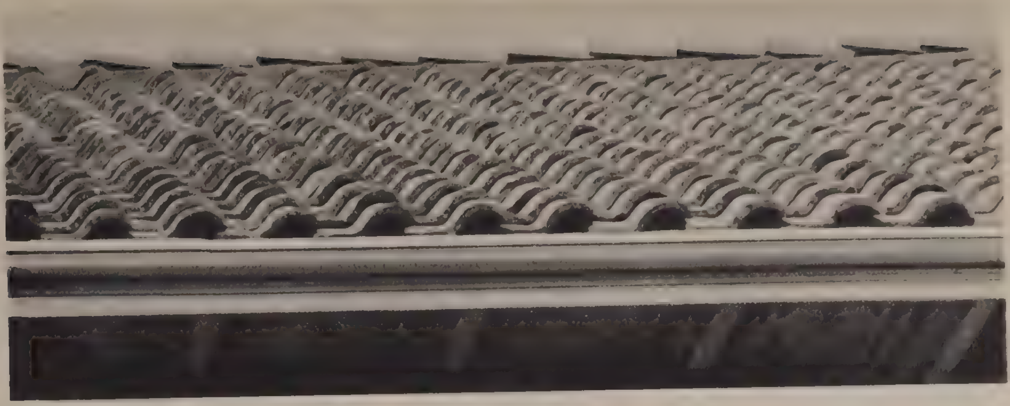


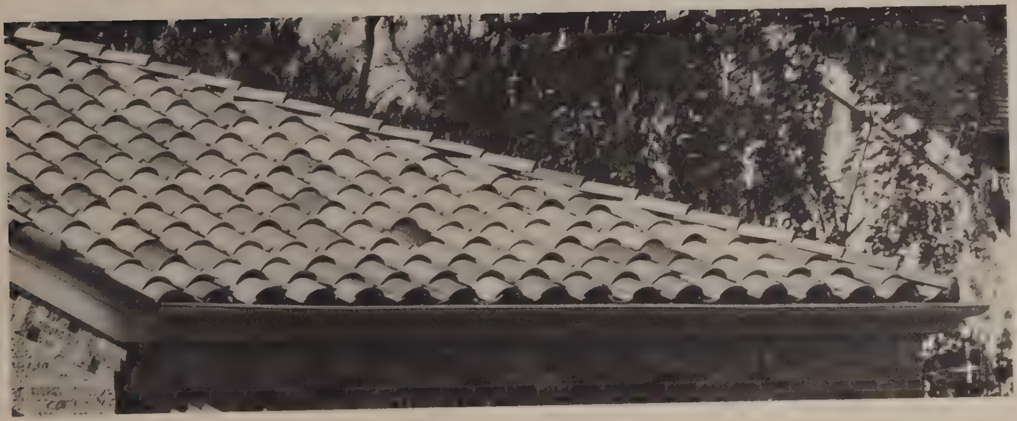
New York, N. Y. Springsteen & Goldhammer



Hilversum, Holland W. M. Dudok

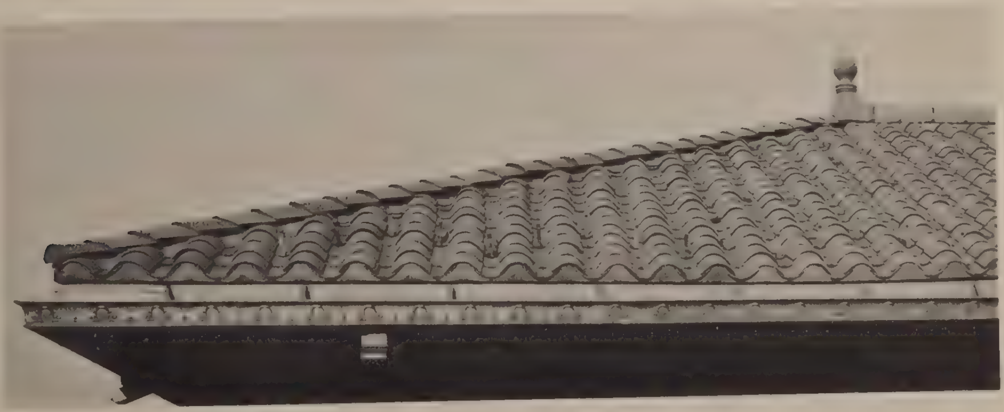
Denver, Colo.
M. H. Hoyt &
B. Hoyt

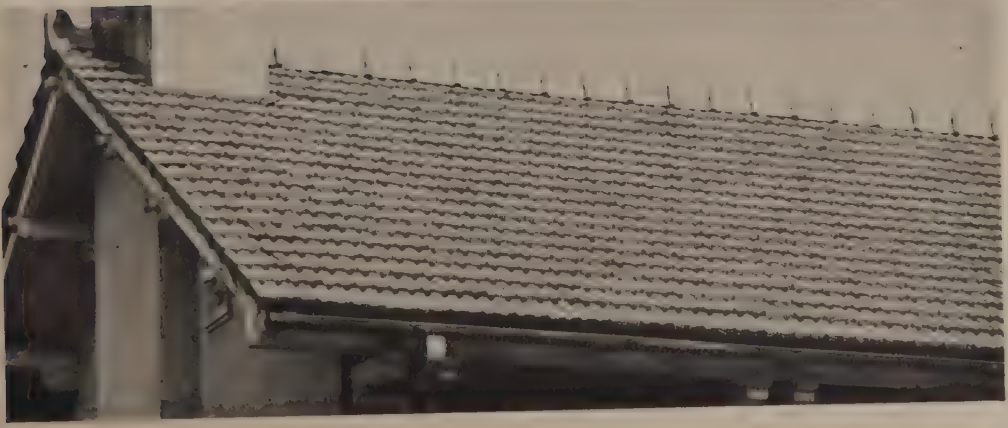




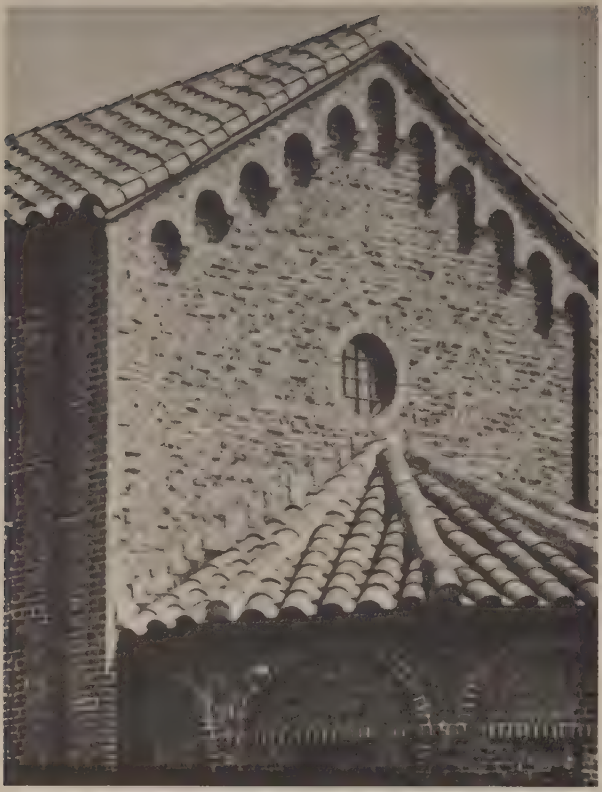
San Antonio, Tex
Harvey P Smith

Detroit, Mich.
Halpin & Jewell

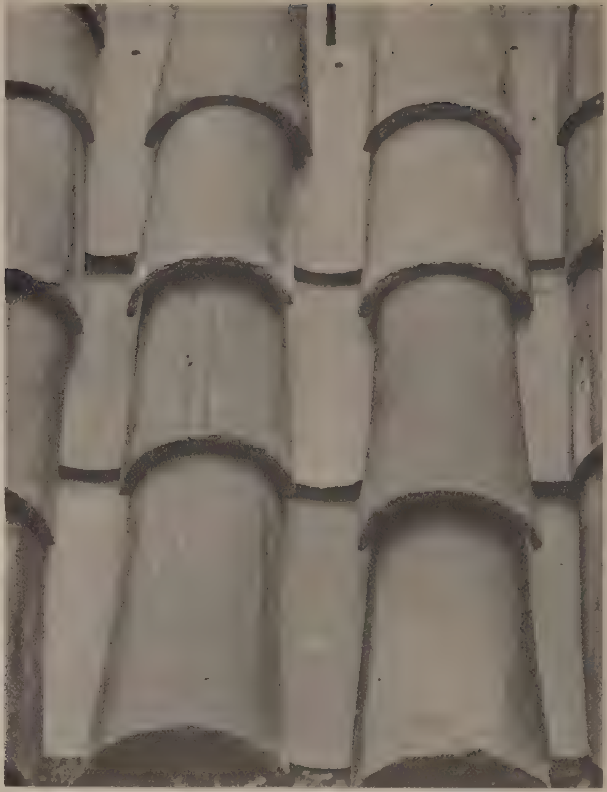




Garden City, N. Y.
Davis, McGrath &
Kiessling

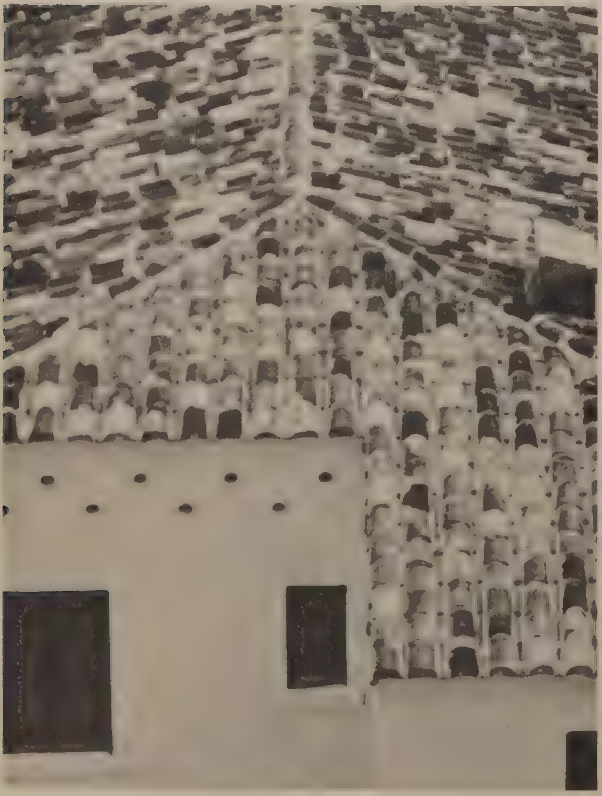


Union City, N. J.
Frederick G. Frost

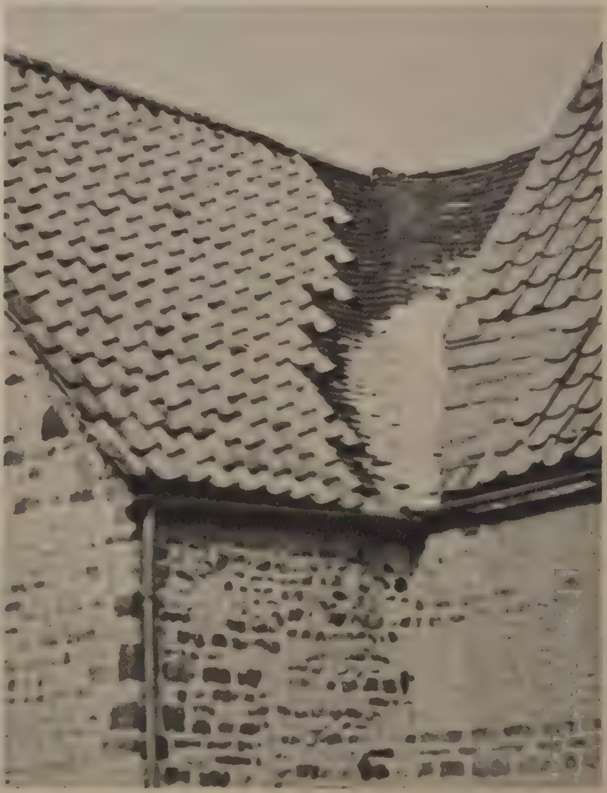


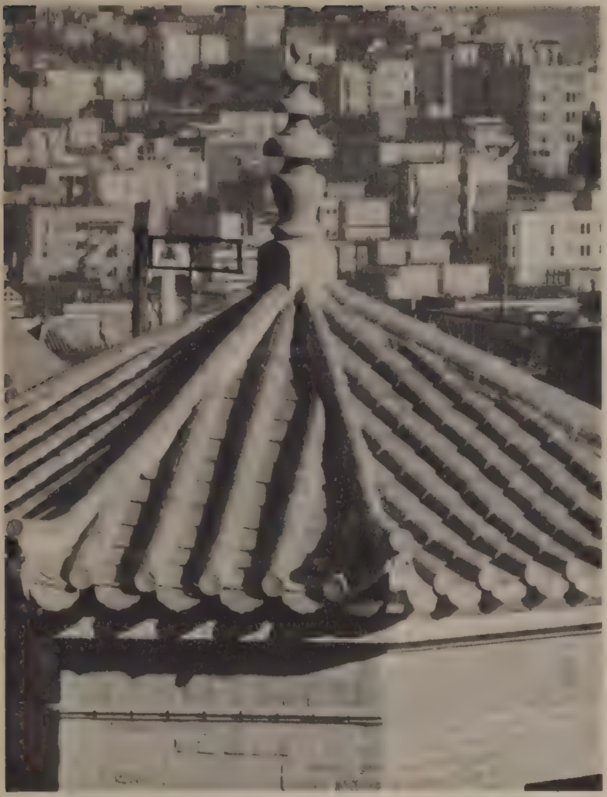
A tapered Mission tile

Miami, Fla.
Wade & Oemler

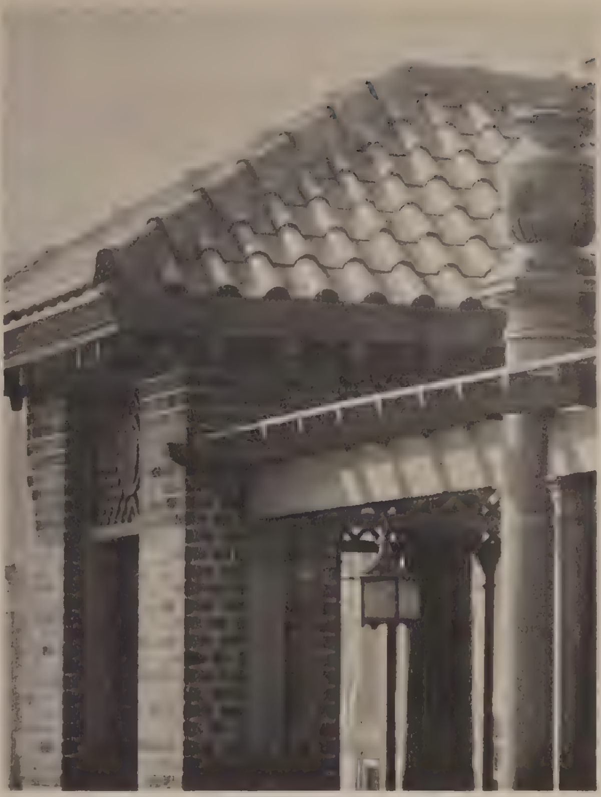


S-tile over shingle tile
Wellingborough, England



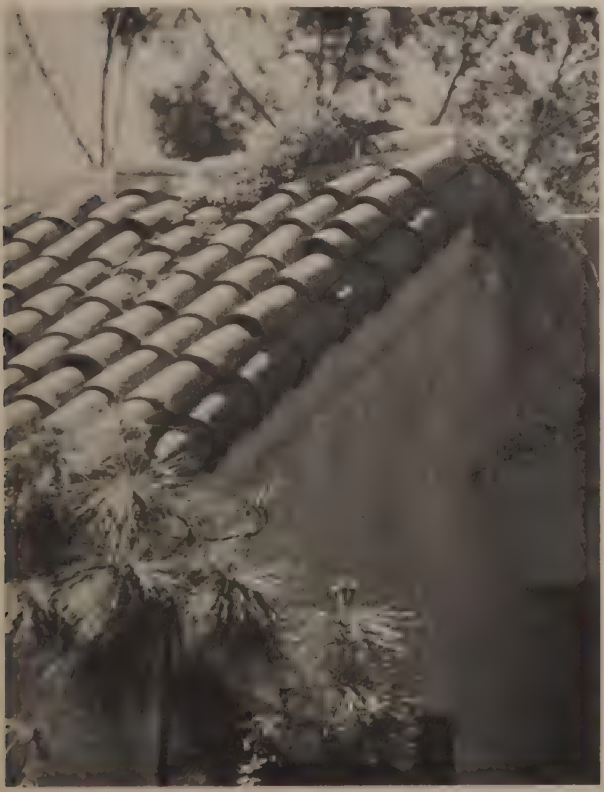


San Francisco, Calif.
Julia Morgan

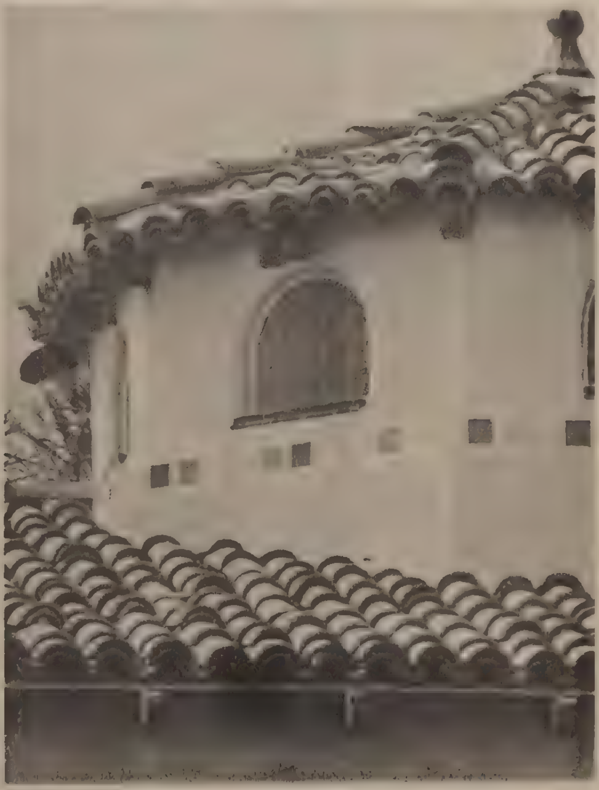


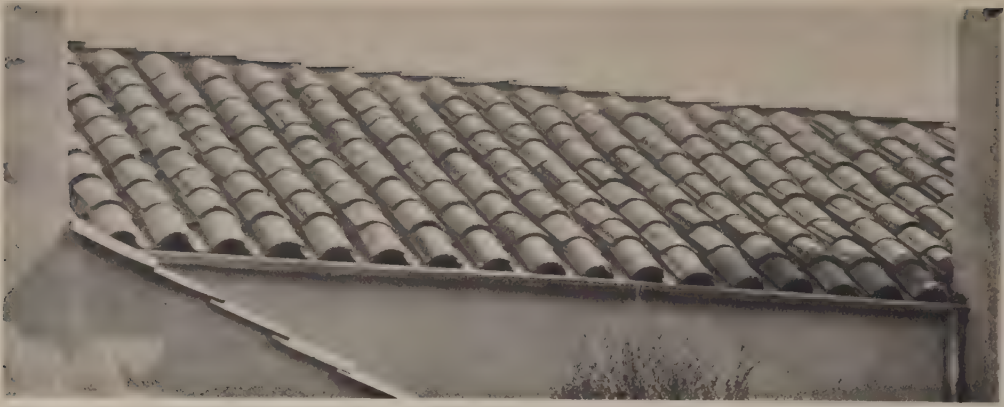
New York, N. Y.
Arthur Loomis Harmon

Santa Monica, Calif.
John Byers

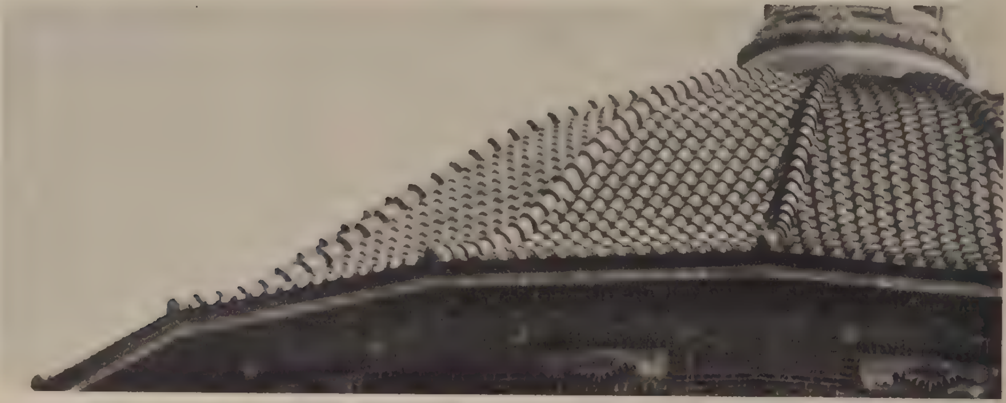


Beverly Hills, Calif.
Jack Laver

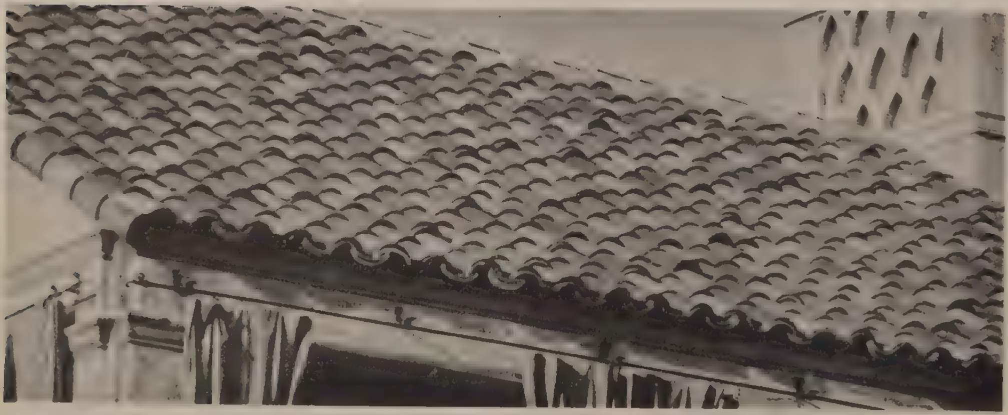




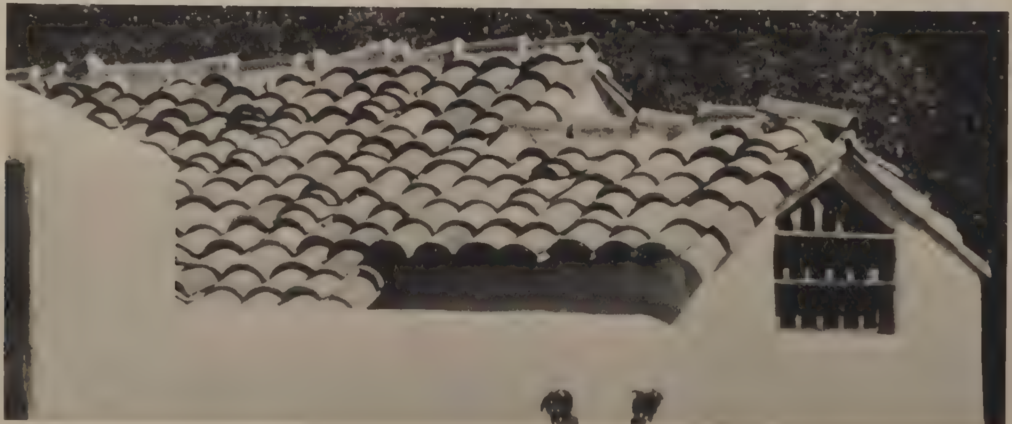
Beverly Hills, Calif.
Koerner & Gage



New York, N. Y.
Howells & Stokes

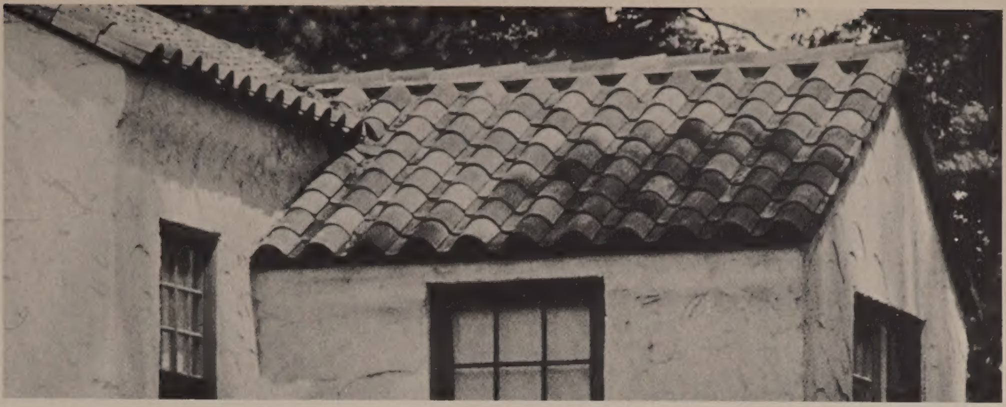


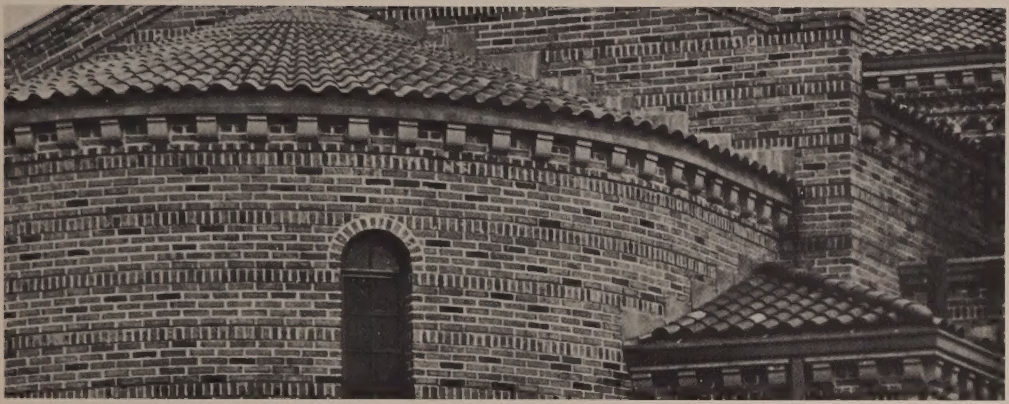
Los Angeles, Calif.
Morgan, Walls & Clements



Hillsborough, Calif.
Willis Polk & Company

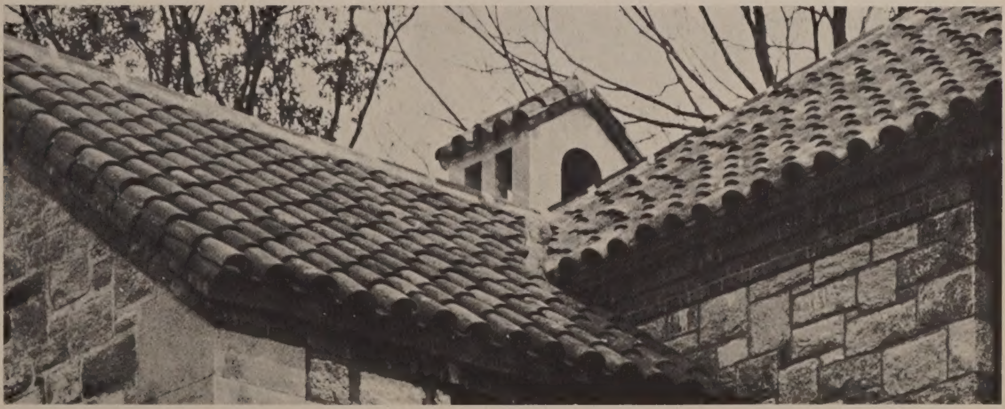
Memphis, Tenn.
Mahan & Broadwell

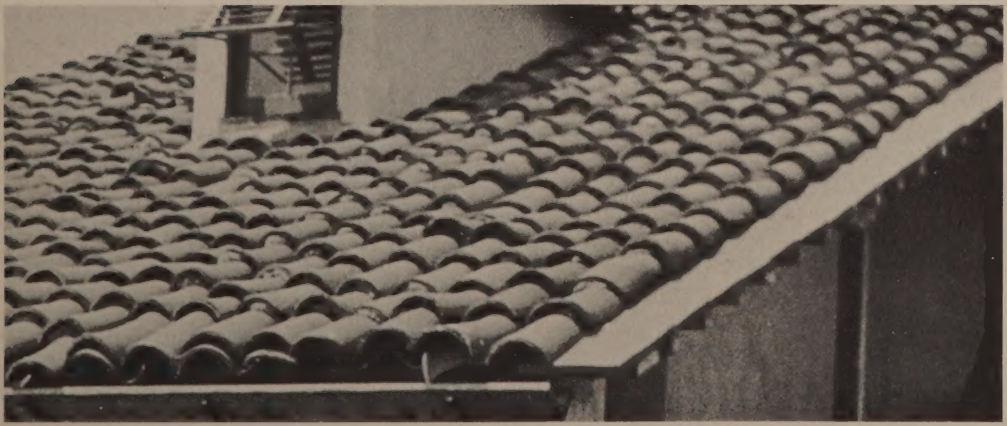




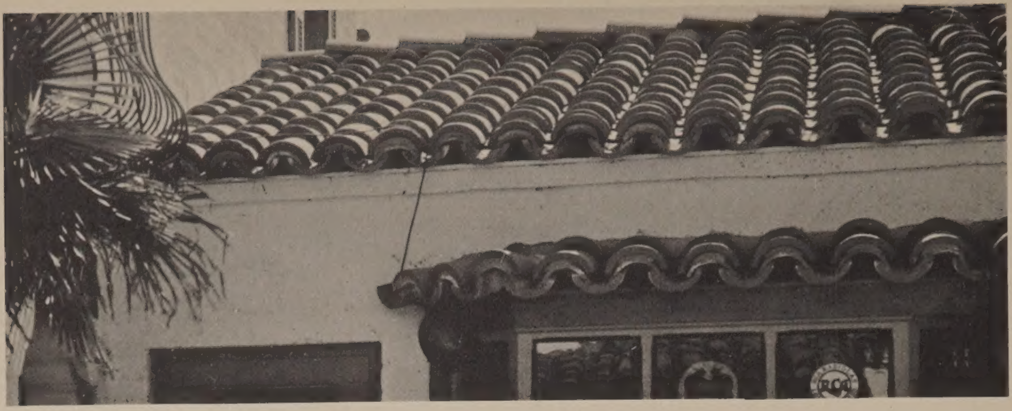
Grand Rapids, Mich.
Mills, Rhines, Bellman & Nordhoff, Inc.

Darien, Conn.
Wesley Sherwood Bessell



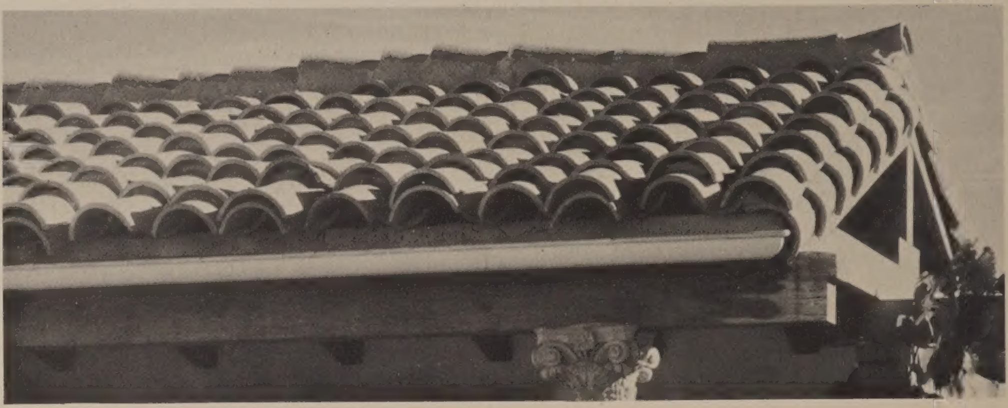


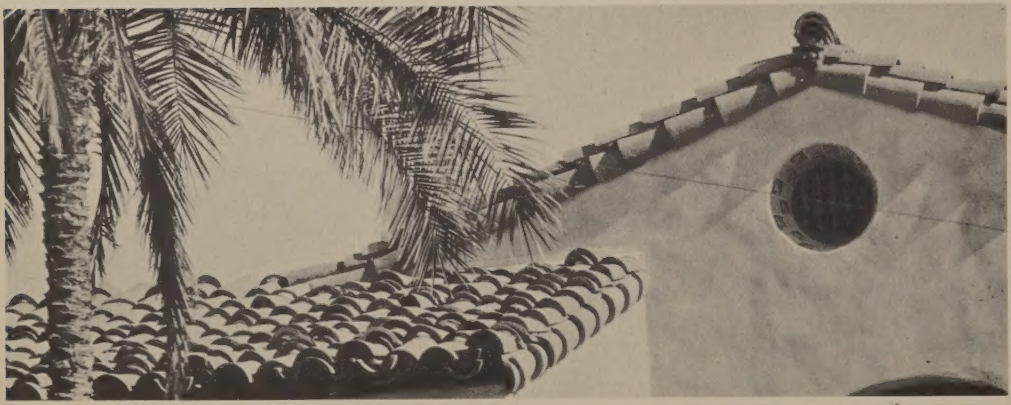
Santa Monica, Calif.
John Byers



Palm Springs, Calif.
Jonathan Ring

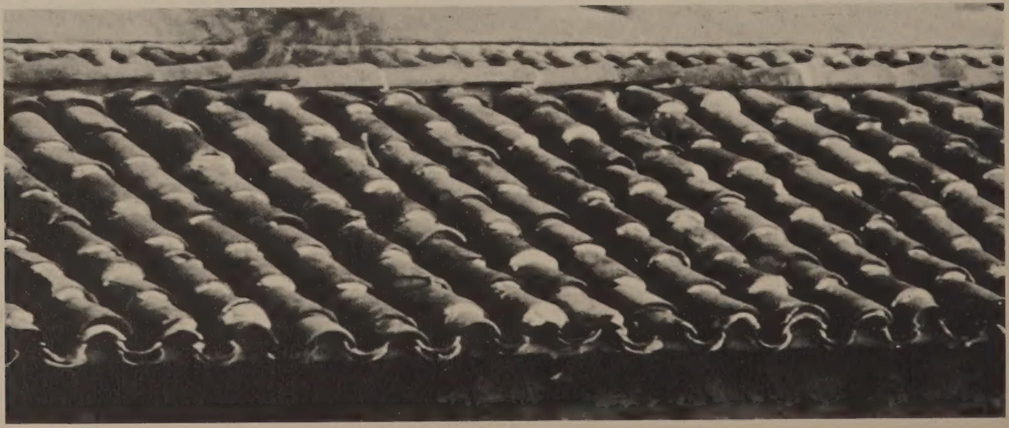
Southern California
Roland E. Coate

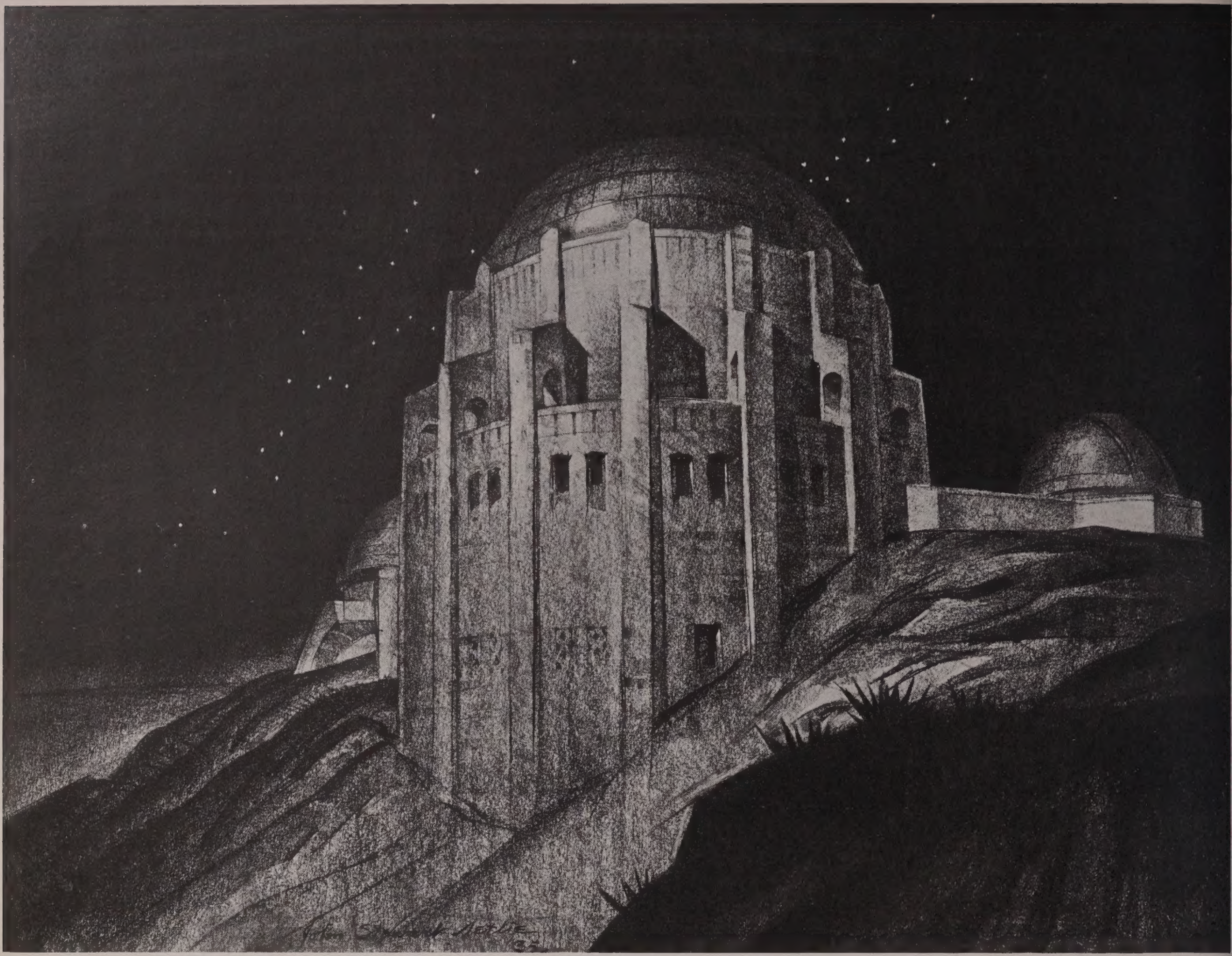




Los Angeles, Calif.
Morgan, Walls & Clements

St. Petersburg, Fla.
Kiehnel & Elliott





The Griffith Planetarium,
Griffith Park,
Los Angeles

John C. Austin, Frederic M. Ashley, Architects
From the drawing by
John Stewart Detlie